

"Science is the great
antidote to the poison of
enthusiasm and
superstition. "

~ Adam Smith (1723-
90) Scottish economist.
The Wealth of Nations,
1776.

Phactum

The Newsletter and Propaganda Organ of the
Philadelphia Association for Critical Thinking
January 2012

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Webmaster: Wes Powers <http://phact.org/>

PhACT Meeting - Saturday, January 21, 2012

at Community College of Philadelphia

In Lecture Room C2-28 in the Center for Business and Industry
at the corner of 18th and Callowhill Streets. At 2:00 PM.

Dr. David Cattell, Chairman of the Physics Department of Philadelphia Community College, will host
Physicist Tom Napier, a long time member of PhACT, who will discuss
All are Welcome. This event is Free and Open to the Public. Handicap accessible.

New Developments In Cold Fusion



Cold Fusion Apparatus in Bologna

Hydrogen fusion keeps the Sun and stars burning and powers our most deadly weapons. Fusion energy, if we could find a way to release it on a small scale, would supply mankind's requirements for millions of years. But, despite the expenditure of billions of dollars, controllable fusion remains a dream --- except in the minds of a few isolated experimenters and their ardent fans. In this talk Tom explains why physicists are skeptical of "cold fusion" and questions whether two old guys in Bologna can put the oil companies out of business before the end of 2012.

Tom Napier trained as a physicist in Scotland. He has

(Continued on page 2)

Boswell: But, Sir is it not somewhat singular that you should happen to have Cocker's Arithmetic about you on your journey?

Dr. Johnson: Why, Sir if you are to have but one book with you upon a journey, let it be a book of science. When you read through a book of entertainment, you know it, and it can do no more for you; but a book of science is inexhaustible.

~ James Boswell (1740-95) Scottish author, biographer of Samuel Johnson.

worked for an English university and two European research organizations. He moved to the USA in 1981 where he developed equipment for scientific research and space-craft communications. He has been a freelance writer since 1996 and a member of the Council of PhACT since its foundation in 1994.

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Cold fusion apparatus.
Where are the guppies?

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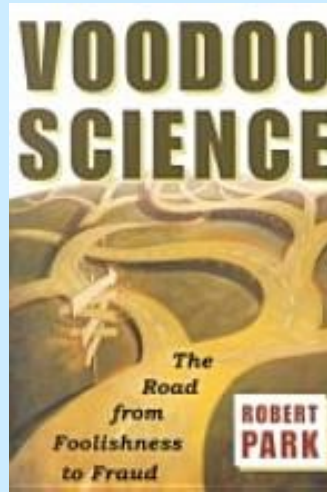
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Voodoo science: the road from foolishness to fraud

By Robert L. Park

Oxford University Press (2000) - Paperback
240 pages - ISBN 0195147103

In a time of dazzling scientific progress, how can we separate genuine breakthroughs from the noisy gaggle of false claims? From Deepak Chopra's "quantum alternative to growing old" to unwarranted hype surrounding the International Space Station, Robert Park leads us down the back alleys of fringe science, through the gleaming corridors of Washington power and even into our evolutionary past to search out the origins of voodoo science. Along



the way, he offers simple and engaging science lessons, proving that you don't have to be a scientist to spot the fraudulent science that swirls around us. While remaining highly humorous, this hard-hitting account also tallies the cost: the billions spent on worthless therapies, the tax dollars squandered on government projects that are doomed to fail, the investors bilked by schemes that violate the most fundamental laws of nature. But the greatest cost is human: fear of imaginary dangers, reliance on magical cures, and above all, a mistaken view of how the world works. To expose the forces that sustain voodoo science, Park examines the role of the media, the courts, bureaucrats and politicians, as well as the scientific community. Scientists argue that the cure is to raise general scientific literacy. But what exactly should a scientifically literate society know? Park argues that the public does not need a specific knowledge of science so much as a scientific world view--an understanding that we live in an orderly universe governed by natural laws that cannot be circumvented.

Letters to the Editor and other Correspondence are highly valued

for inclusion in Phactum. If you have thoughts on some matter why not write down those thoughts and share with other Phactum readers? Writing is a great way to hone and refine critical thinking skills. You need not be as contemplative as Augustine.

Articles, poetry, Letters and Rants to the Editor, suggestions to improve Phactum, items for the calendar, and other matters of interest are wanted for Phactum. Almost all topics are welcome - no partisan politics please.



Errors



In the November/December 2011 Phactum the spelling challenged editor incorrectly spelled **Philadelphia Nerd Night** correctly. The correct incorrect spelling is **Philadelphia Nerd Nite**. We shall endeavour to remain incorrect. Meanwhile, **Philadelphia Nerd Nite** is a fun time with good food, good beer, and interesting short science lectures. So B a Nerd and B there and B² the next opportunities being Wednesday, January 11 and Wednesday, February 8.

Letters to the Editor

Editor: From the "Got a light, buddy?" department - Seen on the streaming information sign on the Berks Street "EL" platform - **"No Smoking Laws Are Enforced"**. Next time I feel the call of nicotine, I'll know where to safely light up.

Tom Medero
Philadelphia



Editor's note: for those not familiar with Philadelphia the "EL" is an elevated commuter train extending from West to Northeast Philadelphia, going underground only in Center City and a portion of West Philadelphia near University of Pennsylvania.

Editor: In the November/December 2011 Phactum, Amy Lowenstein writes that I wrote in the October 2011 Phactum that I didn't know who Harry Hershfield was. I wrote no such thing, and I must protest, because if I had written it, it would have been a sign of ignorance and laziness. I wrote that I found his obituary in the New York Times and his Wikipedia entry. Just prior to that I did write, "who the hell is Harry Hershfield?" It's clear from the context and what follows that I meant only that he isn't well known to the general public.
Howard J. Wilk
Philadelphia, PA

Editor: After all my brow-beating of PhACT about the non-existence of the so-called "Laws of Nature" in current human knowledge, I couldn't help but think of the following quotation which was added as the "tag-line" of an e-mail from a fellow SSE member:

"If something is in me which can be called religious then it is the unbounded admiration for the structure of the world so far as our science can reveal it."

~ Albert Einstein

L. David Leiter
Willow Grove, PA

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Various Ruminations

Collected/Written by Ray Haupt
(with help from others)

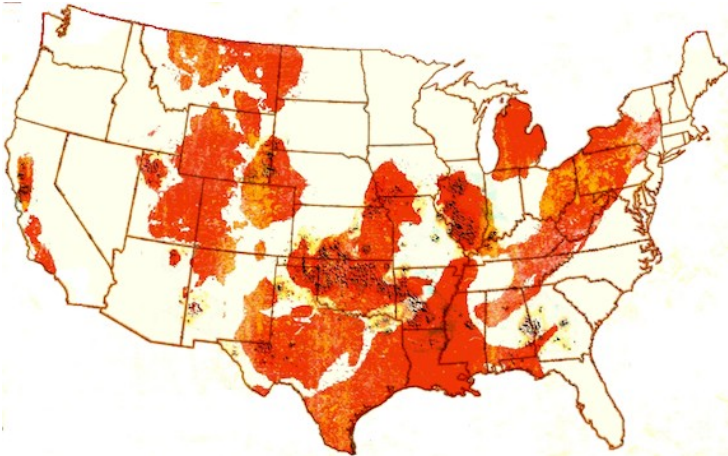
Magical Cancer Cures

No, not magic at all, it is creative and intense application of accumulated scientific knowledge. It surely must seem a Miracle to three desperately sick sufferers of CLL (Chronic Lymphocytic Leukemia) at the Abramson Cancer Center in Philadelphia who were home at Christmas, cancer free, after having been near death six months earlier. It is an amazing story that offers New Hope in treatment of other types of cancers as well as CLL. This story is expanded on [Page 9](#).

The “fracking” controversy

At the November 2011 Phact lecture, Roland Wall, Director of Environmental Policy at The Academy of Natural Sciences, discussed the very current and controversial topic of hydraulic fracturing. This is certainly an interesting topic and in Pennsylvania it has many competing interests. Those in favor cite the desirability of producing energy domestically and assert that environmental danger is minimal. On the other side, various environmentalists cite the dangers of hydraulic fracturing claiming that significant water pollution has already occurred.

Roland did try to walk between the competing interests stressing that a lot of scientific investigation of the matter is critical before reasonable people can draw thoughtful conclusions.



Areas in red depict potential hydraulic fracturing locations

sions.

The November edition of Scientific American has an interesting article entitled “The Truth about Fracking” by Chris Mooney. I disagree that Mooney has arrived at significant

truth on the matter as he too insists that greater research is vital, but he does suggest that gas producers could insert trace amounts of marker chemicals (or perhaps encoded nano particles) with the chemicals and water used for the fracturing process. Furthermore, local water supplies should be tested before any drilling begins. Those two actions should provide powerful evidence if water pollution is eventually discovered.

Vertical Hydraulic Fracturing has been extensively used for about 50 years, but what is new is that it is now performed with multiple horizontal borings a mile deep in the earth.

We shall be hearing a lot more about this matter in upcoming months and years. Here is a computer link to an Academy of Natural Sciences video on the matter of Marcellus Shale drilling.

<http://www.ansp.org/environmental/2010/04/video-follow-up-marcellus-shale/>

Taking multi-vitamin pills 'does nothing for our health'

That was the headline for an article in *The Daily Mail*, a British newspaper. The article states:

Experts said the study – one of the most extensive carried out into vitamin pills – suggested that millions of consumers may be wasting their money on supplements.

Many users fall into the category of the ‘worried well’ – healthy adults who believe the pills will insure them against deadly illnesses – according to Catherine Collins, chief dietician at St George’s Hospital in London.

She said: ‘It’s the worried well who are taking these pills to try and protect themselves against Alzheimer’s disease, heart attacks and strokes. But they are wasting their money. This was a large study following people up for a long period of time assessing everything from their mobility and blood pressure to whether they were happy or felt pain.’

This was no great surprise to me as I do recall various articles in skeptical publications, by Dr. Harriet Hall among others, asserting with plenty of evidence that vitamin supplements were not useful. See Dr. Hall’s article at:

<http://www.sciencebasedmedicine.org/index.php/should-i-take-a-multivitamin/>

The Daily Mail article continued with information far more startling than findings of inefficacy.

Multi-vitamin supplements have become increasingly popular as a quick and easy way of topping up the body’s nutrient levels. But a series of studies have indicated that, for some people, they could actually be harmful.

Two studies published last year suggested supplements could raise the risk of cancer.

One found pills containing vitamin E, ascorbic acid, beta-carotene, selenium and zinc increased the risk of malignant melanoma, the deadliest form of skin cancer, four-fold.

The other discovered women on a daily multi-vitamin pill increased their risk of breast cancer by up to 20 per cent.

While the evidence that vitamins can do harm is still limited, the latest study seems to confirm that many people are at the very least taking them unnecessarily.

For the full Daily Mail article see:

<http://www.dailymail.co.uk/health/article-2078861/Taking-multi-vitamin-pills-does-health.html>

Cheetah - RIP

Tarzan's little buddy, Cheetah, died in Florida of kidney failure on December 24. He was 80 years of age.



Cheetah posing with
Tarz and Jane

Cheetah came to the United States from Liberia in 1932. He appeared as supporting actor in many movies and retired from the Silver Screen in 1967. There is no mention of Cheetah collecting Social Security.

http://www.huffingtonpost.com/2011/12/28/cheetah-the-chimpanzee-obituary_n_1172283.html

Wakefield scandal enlarges.

This item about the anti-MMR vaccine scandal was in Dr. Barrett's Consumer Health Digest of November 17, 2011

The British Medical Journal (BMJ) has published more articles that accuse Andrew Wakefield and the hospital where he worked of acting irresponsibly. Wakefield's 1998 paper alleging a connection between the MMR vaccine and enterocolitis was not supported by microscopic examinations of the biopsy specimens examined in the laboratory. The paper, which touched off a public scare that caused vaccination rates to plummet, claimed that 11 out of 12 children showed histological signs of "non-specific colitis." After the paper was published, the school where Wakefield worked improperly announced that, "Researchers at the Royal Free Hospital School of Medicine may have

discovered a new syndrome in children involving a new inflammatory bowel disease and autism." However, reviewers have now concluded that the biopsy specimens were almost normal and certainly did not represent a new disease entity or association.

http://www.bmj.com/highwire/filestream/536464/field_highwire_article_pdf/0.pdf

In 2010, Wakefield was struck from the medical register (the equivalent of losing his medical license). <http://www.casewatch.org/foreign/wakefield/sanction.shtml>

However, others who reviewed and promoted the faulty research have not been sufficiently investigated. BMJ editor-in-chief Fiona Godlee summed up the situation this way:

"It is now more than 18 months since the UK's General Medical Council found Andrew Wakefield guilty of dishonesty and other serious professional misconduct; and it is nearly a year since the BMJ concluded that his now retracted Lancet paper linking the measles, mumps, and rubella (MMR) vaccine with autism and bowel disease was an "elaborate fraud." At that time, January 2011, we called on Wakefield's former employer, University College London (UCL), to establish an inquiry into the scandal. Ten months on, no inquiry has been announced. . . .

"In light of UCL's failure to act, the BMJ has this week referred the matter to Andrew Miller MP, chair of the House of Commons Select Committee on Science and Technology. If UCL does not immediately initiate an externally led review of its role in the vaccine scare, we believe that Parliament should do it." [Godlee F. Institutional research misconduct: Failings over the MMR scare may need parliamentary inquiry BMJ, Nov 9, 2011]

http://www.bmj.com/highwire/filestream/536466/field_highwire_article_pdf/0.pdf

Quackwatch is a valuable asset to the Skeptical community and others who may have interest in monitoring the activities of shady characters pretending to offer relief and cures for every kind of disease imaginable, and some that do not even exist. The website is <http://www.quackwatch.org> Donations to help support Quackwatch are needed and can be made through PayPal or by mail. See: <http://www.quackwatch.org/00AboutQuackwatch/donations.html>

New Hope

Since we mentioned "New Hope" in an above item about major medical advance, there is a hospital called New Hope Medical Center located in Scottsdale, Arizona that specializes in non-invasive alternative and complimentary cancer treatment and has been in existence for over a decade.

<http://www.newhopemedicalcenter.com/>

Founded by Dr. Fredda Branyon, a naturopathic physician educated at Southwest College of Naturopathic Medicine in Tempe, AZ, the medical center offers a wide variety of health services including cancer treatment. Although the address is in Scottsdale, the actual treatment facility is a 40 bed inpatient hospital in Sonora, Mexico called Centro Medico Del Noroeste.

The Cancer Cure Foundation, a non-profit organization providing information on alternative/integrative therapies (http://www.cancure.org/new_hope_medical_ctr_.htm) had this to say about New Hope.

"New Hope Medical Center's approach is complimentary to traditional medicine and consists of an aggressive immune boosting protocol, which includes detoxification of the body and liver, dietary changes, enhancement of natural enzymes, and restoration of natural flora in the intestine and colon. Intravenous Vitamin C is used to assist in building the body's immune system to support the body's own natural healing process. They use orthomolecular approaches, chelation therapy, oral supplementation, immune system support, nutrition protocols, and an integrated

approach that includes homeopathy, live cell therapy, thyroid function therapy, heavy metal detoxification, far infrared sauna, and prevention counseling."

That is a significant list of services some of which do sound a bit odd. Live Cell Therapy, for example, is rather interesting in that it is a protocol where cells are taken from an animal organ other than human and injected into a cancer patient. The injected cells will somehow find their way to the patients afflicted organ and healing will commence. In an essay about questionable cancer therapies Dr. Stephen Barrett writes:

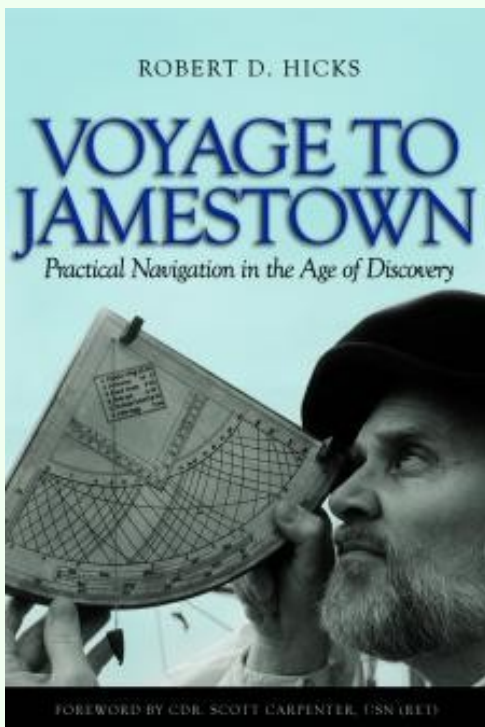
"Fresh cell therapy, also called live cell therapy or cellular therapy, involves injections of fresh embryonic animal cells taken from the organ or tissue that corresponds to the unhealthy organ or tissue in the patient. Proponents claim that the recipient's body

MCHUMOR.COM by T. McCracken



"They're not testing any drugs on me. Instead they're providing spiritual advisers."

Cartoon by T. McCracken
<http://www.mchumor.com/>
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VOYAGE TO JAMESTOWN

Practical Navigation in the Age of Discovery

By Robert D. Hicks, Foreword by CDR Scott Carpenter, USN (Ret.)

ISBN/SKU: 9781591143765 Hardcover 256 pages

Published: October 2011

Voyage to Jamestown explores how sea navigation was accomplished during the era of discovery. Navigational methods and tools are presented within the setting of their use during a sea voyage of the period. While this voyage features a fictional crew and ship, it is carefully reconstructed from actual events, circumstances, narratives, and historical figures, which demonstrates the challenges of marine navigation within the cultural experience of people who actually traveled the oceans centuries ago. The fictional voyage follows the merchant galleon Guyft from Bristol, England, to Virginia in 1611, captained by Tristram Hame. With this narrative technique, the reader can absorb seafaring and navigation as practiced in the seventeenth century as if they were on board the ship. Navigational theory, methods, and instrumentation of the era are all engagingly presented within economic, political, scientific, and religious contexts to portray how the early navigator experienced his world.

Robert D. Hicks is currently Director, Mütter Museum/Historical Medical Library in Philadelphia, PA. He was PhACT's speaker October 2011.

automatically transports the injected cells to the target organ where they repair and rejuvenate the ailing cells. The American Cancer Society states that fresh cell therapy has no proven benefit and has caused serious side effects (infections and immunologic reactions to the injected protein) and death. In 1984, The FDA issued an Import Alert asking the U.S. Customs and Postal Services to block the importation of all "cell therapy" powders and extracts intended for injection."

In 2008, Dr. Branyon acquired a company called Caledonia Consulting and renamed it Global Laboratories LLC. Then in October 2009, New Hope Medical Center merged with BioStem Genetics, a company that has focused its work on umbilical cord blood stem cell research and therapy. The name of the newly-formed company became Branyon Integrative Medical Group. Meanwhile, Dr. Branyon from April 2009 to February 2010 was illicitly buying umbilical cord blood from a birthing center midwife to replenish Global's stock of stem cells. Global knowingly sold stem cells to an unidentified man in Brownsville, Texas for the purpose of treatment.

Branyon was arrested by Federal authorities for various crimes related to selling illegal stem cells. At a subsequent trial she pleaded guilty and was released on \$50,000 bail pending sentencing. Branyon will be sentenced in February 2012. She faces up to three years in federal prison, and a \$10,000 fine.

Water does not prevent dehydration!!

Get a load of this!!

A panel of experts in the European Union declared that water is not healthy and that providers of bottled water may not claim that water is the best way to avoid dehydration!!!



**Ugly Carrot
Illegal in Belgium**

The EU has a long history of passing bizarre regulations, the most infamous being 1995 rules setting out dimensions for fruit and vegetables which

led to excessively curved bananas and ugly carrots being banned. And last year attempts to regulate the use of root

vegetables in Cornish pasties sparked chaos.
<http://www.express.co.uk/posts/view/284426/EU-says->



"I've never seen a Surgeon General's warning on water before."

Cartoon by T. McCracken
<http://www.mchumor.com/>

water-is-not-healthy

Beezow Doo-Doo Zopittybop-Bop-Bop

I bet you think that is the "libretto" to some bee-bop musical performance. Well, it is not.

Beezow Doo-Doo Zopittybop-Bop-Bop, 30, of Madison, Wisconsin was arrested and charged with carrying a concealed weapon, possession of drug paraphernalia, possession of marijuana and a probation violation. Mr. Beezow Doo-Doo Zopittybop-Bop-Bop had a legal name change in October 2011.

Mr. Beezow Doo-Doo Zopittybop-Bop-Bop had been arrested by Madison police in April 2011 in Peace Park after officers found a loaded handgun in his backpack.

More on this fascinating tale can be found at:
http://host.madison.com/news/local/crime_and_courts/bee-zow-doo-doo-zopittybop-bop-bop-arrested

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Richard Dawkins on Alternative Medicine

alternative medicine is a "...set of practices which cannot be tested, refuse to be tested, or consistently fail tests. If a healing technique is demonstrated to have curative properties in properly controlled double-blind trials, it ceases to be alternative. It simply...becomes medicine."

--"There is no alternative medicine. There is only medicine that works and medicine that doesn't work."

PhACT Meeting Report - November 19, 2011

By Karl Weiss

Karl Weiss is a student of Dr. David Cattell at Philadelphia Community College

Roland Wall Discusses the Controversial Topic of Hydraulic Fracturing.

Hydraulic fracturing (fracking) is drilling down about a mile and then sideways. Pressurized fluids are then pumped into the Marcellus shale which in turn causes the shale to expand freeing up gasses. The gasses are then gathered up for distribution. Daniel J. Soeder was the first to discover the potential of the Marcellus shale, since the discovery questions have risen regarding the pros and cons that inevitably follow mining. With billions, and possibly trillions of dollars hiding just below the water line many companies and institutions have started conducting research that peers into the negative consequences and advantages of “fracking”. However, some effects have become evident already. Should we pursue this endeavor in the search for new fuel sources? Roland Wall dived into the subject in his monologue at the Community College of Philadelphia. He holds a B.A. in Political Science and an M.S. in Entomology and Applied Ecology, both from the University of Delaware.



As one would expect from any endeavor large or small, negative consequences usually arise. What are some of the cons encircling fracking? In his monologue Roland Wall admitted that the long term effects of fracking are largely unknown but that they are likely to span some of the already partially evident short term effects. Some effects may include slight contamination rises in neighboring communities. However, a study conducted by Penn University shows that there was not a notable difference in the condition of the drinking water before and after mining began in surrounding regions. Another problem may be the possibility of Methane migration, although it cannot be accredited to the sites. Something that is evident as a con arises from altering the mining

location; the alterations result in pads on the landscape, solid disposals on site and edge effects.

Possible pros that emanate from fracking may include an increased currency flow into the states in which the Marcellus shale is mined. Although some economists also worry about the effects that the depletion of the source would have on the local communities. However it is already evident that mining sites are creating many new jobs, which in this economy is considerably favorable. Another surprising feat is regarding mining sites is that the amount of sites per area does not seem to create a difference in the safety of the water; perhaps a worthwhile endeavor would be to locate a threshold for a maximum amount of sites. What potential does fracking have? Roland Wall commented that the amount that may be mined has the potential to single handedly power this nation for about three years.

Granted there is a lack of conclusive data for the long term effects of fracking sites, and there is a need for more local water regulation on the part of local governments, however there are more dangerous and factually harmful mining derivations other than fracking that are being enacted nationally. With the potential to generate money in a declining economy and an impressive magnitude of potential power fracking makes a case for itself. However to take a definite decision on whether fracking is a worth while endeavor requires more research.

3 Tumor-free Cancer Patients Were Home for the Holidays

Immunotherapy proves itself in a surprising clinical trial

In the March 2011 Phactum, we reported on Page 12, a story about Immunotherapy being a possible future method of cancer treatment. At that time Dr. Carl June and Dr. David Porter at University of Pennsylvania's Abramson Cancer Center were hopeful that their research would prove effective in stimulating a cancer patients immune system to fight the disease with lessened side effects caused by many cancer treatments. Drs. June and Porter were seeking desperately sick patients with acute and chronic lymphocytic leukemia (ALL and CLL) who had relapsed after bone marrow transplantation. Their first three patients had dramatic positive results.

In August of 2011 there was an announcement on a Penn website: (http://www.penncancer.org/penn_news.cfm?ID=1610) that

... in a cancer treatment breakthrough 20 years in the making, researchers from the University of Pennsylvania's Abramson Cancer Center and Perelman School of Medicine have shown sustained remissions of up to a year among a small group of advanced chronic lymphocytic leukemia (CLL) patients treated with genetically engineered versions of their own T cells. The protocol, which involves removing patients' cells and modifying them in Penn's vaccine production facility, then infusing the new cells back into the patient's body following chemotherapy, provides a tumor-attack roadmap for the treatment of other cancers including those of the lung and ovaries and myeloma and melanoma. The findings, published simultaneously in the New England Journal of Medicine and Science Translational Medicine, are the first demonstration of the use of gene transfer therapy to create "serial killer" T cells aimed at cancerous tumors.

"Within three weeks, the tumors had been blown away, in a way that was much more violent than we ever expected," said senior author Carl June, MD, director of Translational Research and a professor of Pathology and Laboratory Medicine in the Abramson Cancer Center, who led the work. "It worked much better than we thought it would."

The results of the pilot trial of three patients are a stark contrast to existing therapies for CLL. The patients involved in the new study had few other treatment options. The only potential curative therapy would have involved a bone marrow transplant, a procedure which requires a lengthy hospitalization and carries at least a 20 percent mortality risk – and even then offers only about a 50 percent chance of a cure, at best.

"Most of what I do is treat patients with no other options, with a very, very risky therapy with the intent to cure them," says co-principal investigator David Porter, MD, professor of Medicine and director of Blood and Marrow Transplantation. "This approach has the potential to do the same thing, but in a safer manner."

Secret Ingredient

Dr. June thinks there were several "secret ingredients" that made the difference between the lackluster results that have been seen in previous trials with modified T cells and the remarkable responses seen in the current trial.

After removing the patients' cells, the team reprogrammed them to attack tumor cells by genetically modifying them using a lentivirus vector. The vector encodes an antibody-like protein, called a chimeric antigen receptor (CAR), which is expressed on the surface of the T cells and designed to bind to a protein called CD19.

Once the T cells start expressing the CAR, they focus all of their killing activity on cells that express CD19, which includes CLL tumor cells and normal B cells. All of the other cells in the patient that do not express CD19 are ignored by the modified T cells, which limits side effects typically experienced during standard therapies.

The team engineered a signaling molecule into the part of the CAR that resides inside the cell. When it binds to CD19, initiating the cancer-cell death, it also tells the cell to produce cytokines that trigger other T cells to multiply – building a bigger and bigger army until all the target cells in the tumor are destroyed.

Serial Killers

"We saw at least a 1000-fold increase in the number of modified T cells in each of the patients. Drugs don't do that," June says. "In addition to an extensive capacity for self-replication, the infused T cells are serial killers. On average, each infused T cell led to the killing of thousands of tumor cells - and overall, destroyed at least two pounds of tumor in each patient."

The importance of the T cell self-replication is illustrated in the *New England Journal of Medicine* paper, which describes the response of one patient, a 64-year old man. Prior to his T cell treatment, his blood and marrow were replete with tumor cells. For the first two weeks after treatment, nothing seemed to change. Then on day 14, the patient began experiencing chills, nausea, and increasing fever, among other symptoms. Tests during that time showed an enormous increase in the number of T cells in his blood that led to a tumor lysis syndrome, which occurs when a large number of cancer cells die all at once.

By day 28, the patient had recovered from the tumor lysis syndrome - and his blood and marrow showed no evidence of leukemia.

"This massive killing of tumor is a direct proof of principle of the concept," Porter says.

The Penn team pioneered the use of the HIV-derived vector in a clinical trial in 2003 in which they treated HIV patients with an antisense version of the virus. That trial demonstrated the safety of the lentiviral vector used in the present work.

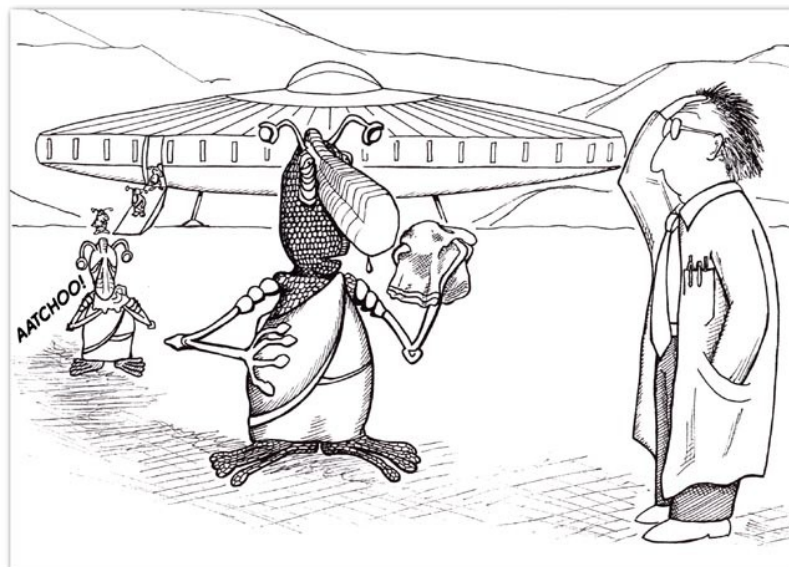
The cell culture methods used in this trial reawaken T cells that have been suppressed by the leukemia and stimulate the generation of so-called "memory" T cells, which the team hopes will provide ongoing protection against recurrence. Although long-term viability of the treatment is unknown, the doctors have found evidence that months after infusion, the new cells had multiplied and were capable of continuing their seek-and-destroy mission against cancerous cells throughout the patients' bodies.

As of December 2011 the three clinical trial patients were doing very well, in cancer free remission, and home for the Holidays.

The story will not end with this success as there are ambitious plans for more research and to apply this technique to other forms of cancer.

Moving forward, the team plans to test the same CD19 CAR construct in patients with other types of CD19-positive tumors, including non-Hodgkin's lymphoma and acute lymphocytic leukemia. They also plan to study the approach in pediatric leukemia patients who have failed standard therapy. Additionally, the team has engineered a CAR vector that binds to mesothelin, a protein expressed on the surface of mesothelioma cancer cells, as well as on ovarian and pancreatic cancer cells.

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"You want OUR technology? We actually came here to ask whether by any chance YOUR civilization had managed to come up with a cure for the common cold?"

Cartoon by Nick D. Kim, <http://www.lab-initio.com>
Used by permission.



Mark your calendar for the 2012 Philadelphia Science Festival!

April 20 - April 29, 2012

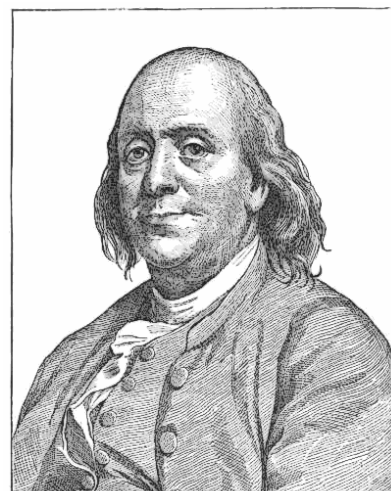
Programs and exhibitions will take place throughout the city's many neighborhoods, fueled by the best scientific and educational resources the region has to offer--all geared towards making science interesting, relevant, and fun.

Stay tuned into the official website at:

<http://www.philsciencefestival.org/>

This event is organized by The Franklin Institute in cooperation with many major science, education, cultural, business, and governmental organizations.

Major sponsors are: Dow Chemical Company, University of Pennsylvania, Drexel University, LaSalle University, and University of the Sciences

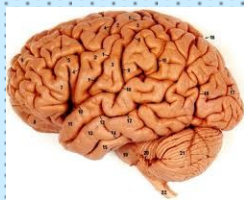


Core collaborators for this event include:

The City of Philadelphia
The Franklin Institute
The Academy of Natural Sciences
American Philosophical Society
Chemical Heritage Foundation
The College of Physicians
of Philadelphia
Drexel University
The Free Library of Philadelphia
Independence Seaport Museum

La Salle University
Monell Chemical Senses Center
The College of Physicians of
Philadelphia - Mutter Museum
New Jersey Academy for
Aquatic Sciences
Philadelphia Zoo
Pennsylvania Horticultural Society
Philadelphia University
Please Touch Museum

The School District of Philadelphia
Temple University
University of Pennsylvania
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of Archaeology and
Anthropology
University of the Sciences
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Science
The Wistar Institute



WHAT'S ON YOUR MIND?

Neuroscience Renews The Debate About Free Will

By Tom Medero

Anyone who knows me well is aware that among my greatest interests are psychology and philosophy. As far as finding conversation, the first seems to intrigue and can sometimes entertain, the latter too often suffers from an unfair and inaccurate stereotype as uninteresting or irrelevant. My partner, best friend, and sharpest critic, Ruth, has mentioned that my topics of conversation don't always have the widest appeal by reminding me, mid sentence, "I have to go *to work*". The implication is not lost on me. PhACT, it seems, has come to my rescue. In answering the editor's call for "thoughts on some matter(s)", I'd like to share some interesting developments in these areas, experiments and research that fascinates in unexpected results, and insight into the human mind.

I'd like to begin with the fairly recent confirmation of "blindsight", but before I go on I should say that its legitimacy and what it means is still a hot topic of debate in the visual-neuroscience and philosophic community. Conclusions drawn from strong inference in science and supported by replicable experiments are the foundation for the logic of science. Philosophers debating various theories of mind have found this phenomenon fodder for arguing their particular positions on the origins and meaning of consciousness.

Blindsight is a phenomenon seen in persons who have suffered brain damage in their visual cortex resulting in blindness and who cannot consciously see an object in front of them, yet apparently can still direct their hands directly to it when asked to. Most study participants object that this is useless, that they simply can't see it, yet upon the request of researchers they are able to place their hand right to it with the correct grasping position of the fingers every time. Amazing as it is, a physical reason for this has been verified. Neuroscientist V. S. Ramachandran, in his beautifully written and accessible "The Tell-Tale Brain", identifies two neural pathways emerging from our primary visual cortex. The first, going ventrally down to our temporal lobe, he identifies as processing spatial locations of visual stimuli *beneath our conscious awareness*. The latter, going dorsally up to our parietal lobe assists in our conscious perception of

stimuli allowing us to actually visualize and recognize what it is we are looking at. The first pathway is the one believed to be used in blindsight. The most recent research on this has found unequivocally that if the second pathway or the parietal area of the cortex is damaged, people are no longer consciously aware of any objects in their visual field. However, their brain does "see" using the ventral pathway beneath conscious awareness, a pathway thought to be much older in an evolutionary context. This also confirms the physical presence of an unconsciousness and the brain's ability to process stimuli without awareness either alone or simultaneously with consciousness awareness.

"The brain is the last and grandest biological frontier, the most complex thing we have yet discovered in our universe. It contains hundreds of billions of cells interlinked through trillions of connections. The brain boggles the mind."

~ James D. Watson

Discovering the Brain, National Academy

In the 1980s, Benjamin Libet, a noted brain scientist (as they were sometimes called then) experimentally identified one particular and controversial cognitive activity. To catch us up, Dr. Libet found what he called a "readiness potential"; neurons firing milliseconds before acts were consciously chosen or decided upon. How his experiment works is

that he asked test subjects to freely make a choice pressing a button while a second hand revolved around a clock face, brain activity being simultaneously measured and recorded. What he found was a sharp increase in brain activity immediately before a conscious choice was made. Some members of the scientific community saw this as an erosion of the idea that we have free will, our choices following some antecedent stimulus or cause rather than as the product of our own conscious discretion. Additionally, it confirmed the presence of an unconscious "mind" going about its business seemingly unaffected by the myriad stimuli of the sensory world. Enter John-Dylan Haynes, and his important work expanding on Libet's controversial 1983 experiments.

Beginning in 2007, Dr. Haynes, a neuroscientist at the Bernstein Center for Computational Neuroscience in Berlin, modified Libet's experiments using updated technology. His tests had subjects look at random alphabet letters while measured in real time by an fMRI (functional magnetic resonance imaging), a technology not yet on the scene in 1983. He then asked them to choose a letter by using either their left or right index fingers to press a button whenever

they consciously made that choice. He also found substantial neural activity in specific brain regions. But now, the newer technology has found this neural activity *up to seven seconds before* they consciously made their choice. That's an awful long time preceding awareness. This revelation, some claim (including Haynes), once again points to the end or at least the limiting of free will. The claim is that our conscious choices actually *are following* a decision our brain has made unconsciously several seconds earlier than our conscious choices. Free conscious choices, the thinking goes, is an illusion. Philosophers know this line of thought as “determinism”, the thesis that as all events in the universe are caused, therefore all of our choices and behaviors have an antecedent. This makes us an automaton of sorts, something a good amount of philosophers and non-philosophers alike find quite disquieting (me too) not to mention a little creepy. My view is that the conscious choices I make, using free volition actually *is* my will being carried out. It is my position that a choice cannot *be* a choice *until* I am aware of myself making it. These experiments have most of all only proven that unconscious as well as conscious thought find their foundations in neural activity, period. I'm sure that Haynes' work is an important finding, but reaching to involve free will is overreaching.

Consciousness is an evolutionary adaptation, and a marvelous one at that. It has allowed us innumerable advantages over other species. The finding that our brain is engaged in cognitive activity prior to any conscious awareness of making a choice proves nothing to me regarding free will, volition, or motivation. A substantive part of the no-free-will hypothesis is glaring in its omission; there is simply no way of knowing if the unconscious cognitive activity is in any way related to the choices the participants made. Sure, the processes *may* have been congruent with the choices they made, or it just as possibly could have been something entirely unrelated. But it certainly is not probable, and there is just no way to discern this. Even being able to identify the specific area of the brain doing the processing cannot conclude in a cogent manner any relevance to what comes about consciously. If, in the future, it is somehow proven that the unconscious processes match the conscious ones, the argument is still not convincing.

A choice, by definition, is a conscious act. We can and do breathe unconsciously, just as we can choose to breathe

consciously. One could never successfully argue that the choice of when and how to breathe on request from a doctor is also predetermined by parts of our brain through unconscious motor commands. We use our free will to choose the instant of lowering our diaphragms and the depth of each breath. If Dr. Haynes had us examined with an fMRI during the process, he would again find cognitive activity before we consciously made these choices. It follows that this simply means nothing in regard to free will.

Good science, particularly the neuroscience of late has dazzled and amazed us, found answers and explanations for puzzled loved ones, and yet is still in its infancy. Just as it was once reasonable to expect Buck Rogers could not have the technology he used at his disposal until the twenty-fifth century, it is not out of the ballpark to expect neuroscience to come up with fantastic findings, possibly sooner than we are ready for. But the excitement surrounding scientific findings is no excuse to give into un-thought-out claims. John-Dylan Haynes is doing important work, and it would be a shame if it became diminished by the over-reach of ambition. Jay Gould somewhat fell victim to this in claiming a scientific paradigm shift and it unfortunately cast a suspicious gaze upon other important work he had done. Haynes is an unquestionably talented and creative neuroscientist, but I'd much rather he continued making great discoveries there rather than straying off into the realm of analytic philosophy. In making scientific discoveries, the humility displayed by Charles Darwin is still a good behavioral yardstick.

Tom Medero, originally from Long Island, NY, has lived in Philadelphia for 20 years now. He will be graduating from Community College of Philadelphia this Spring taking his Associates Degree in Liberal Arts/Behavioral Science. Tom is continuing his studies at Temple University this fall as a Psychology major.

Editors notes: This is the first of monthly columns by Tom Medera. entitled “What’s on Your Mind”. For more about Free Will see the Special Edition of Phactum by Al Fonda entitled “The Physics of Free Will”.

<http://phact.org/special.php>

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“My hand moves because certain forces----electric, magnetic, or whatever 'nerve-force' may prove to be----are impressed on it by my brain. This nerve-force, stored in the brain, would probably be traceable, if Science were complete, to chemical forces supplied to the brain by the blood, and ultimately derived from the food I eat and the air I breathe.”

~ Lewis Carroll (from Sylvie and Bruno, 1890)

ARE WE ABORTING ABORTION?

by Paul Schlueter III

Here's a topic that sits squarely on the divisive margin between Conservative and Liberal, between Religious and Pagan, arguably even between Good and Evil themselves. Having conceived a fetus, when, by whom, and how is it suitable for that fetus to be aborted? Please note that I intentionally leave contraception out of the debate for the moment; I'm writing just of the act of ending an existing pregnancy.

I don't have to rehash the recent situation in which Philadelphian abortionists allegedly performed illegal abortions, perhaps even including the so-called "partial-birth" procedure; I'm sure the topic was thoroughly exhausted in conversation among locals, and when it gets into the Courts, the case will be minutely covered by local media as well. However, the issue still has national, and even international, relevance and importance. In one issue of *The Week* (11/18/11), there ran two brief stories on new abortion law.

One article discussed the failed attempt in Jackson, Mississippi, to legislate a new definition of "personhood" by amending the state constitution to declare that life begins at conception (similar legislative attempts failed in Colorado in '08 and '10). Mississippi proposes banning not only all

actual abortions, but also contraceptives that merely block the attachment of a fertilized egg in the womb.

In Colorado, a largely liberal state, a law banning abortion could be expected to face strong opposition, but it was expected that a constitutional amendment in Mississippi (deep in the heavily-religious South) would have greater chance of success. The proposal there attempted to ban both IUDs and "morning after" pills, and ALL forms of abortion at any time during pregnancies, even when the pregnancies were due to rape or incest, or imposed lethal risk on the mother. That's about as straight-forward as an anti-abortion proposition can be, in a country where those exceptional circumstances seem to have become accepted by a large portion of the population. The measure's failure seems to indicate that even the most religious of American communities aren't ready for a total ban on abortion at this time.

Russia seems to lend a substantially different perspective. During the Soviet era, formal religion was officially prohibited by Communist doctrine, and atheism was the official state "religion." For argumentative purposes, the lack of a religious incentive to carry a pregnancy to term

The WICKEDEST WOMAN IN NEW YORK - Madame Restell

Ann Trow, a young British woman, moved to New York City in 1832 with her husband who soon died of yellow fever. In 1836 Ann remarried to Charles Lohman, a German-Russian immigrant, a radical and freethinker. Lohman was a friend of George Matsell, the publisher of the radical journal **Free Inquirer**. Ann's brother, Joseph Trow, had also emigrated to New York and was working in a pharmacy. Ann had no medical training whatsoever, but did take an interest in women's health and with help from her brother and husband began marketing various birth control products. In 1838 had renamed herself Madame Restell. Her husband, Charles, adopted the pseudonym Dr. A. M. Mauriceau after Francois Mauriceau (1637-1709), an obstetrician at the French court.

In 1847 Charles and Ann Lohman (now A. M. Mauriceau and Madame Restell) published their awkwardly titled book *'The Married Woman's Private Medical Companion embracing the treatment of menstruation, or monthly turns, during their stoppage, irregularity, or entire suppression. Pregnancy, and how it may be determined; with the treatment of its various diseases. discover to prevent pregnancy; the great and important necessity where malformation or inability exists to give birth. to prevent miscarriage or abortion. when proper and necessary to effect miscarriage. when attended with entire safety. causes and mode of cure of barrenness, or sterility'*.

Published in 1847, it was an astonishingly early work on this subject. Their best-selling book can be understood as advertisement for their enterprise: They ran a lucrative mail-order business and abortion service in New York City from the 1840s through the 1870s. Their enterprise flourished; they soon opened branch offices in Boston and Philadelphia and moved into a lavish mansion on Fifth Avenue. The Philadelphia franchise was located at 39½ South Eighth Street. In 1878 Madame Restell was arrested in a sting operation engineered by Anthony Comstock, head of the 19th century **Society for the Suppression of Vice**, after posing as a man who needed birth control for his mistress. Unable to buy her freedom as she had in previous cases, Madame Restell killed herself by cutting her own throat the night before she was to go to trial. Madame Restell was so well known that the practice of abortion was sometimes referred to as **'Restellism'**.



probably had a strong influence in that society's acceptance of abortion. The other article in *The Week* involves the imminent passage of a new law in Russia, where there are currently 73 abortions for every 100 births (the number of other pregnancy-ending events was not reported). The bill currently nearing final approval will limit abortions to the first 12 weeks (trimester) of pregnancy, but provide an exception allowing abortions until the 22nd week for women who claim financial inability to raise a child. The government position states that abortion is a major factor in the country's declining birthrate, and points out that abortion is the leading form of "birth control."

One wonders what the abortion policies might be in China, where the state restricts couples to one child; if I'm not mistaken, the one-child policy is viewed as sufficient reason for a Chinese couple to seek political asylum in the U.S., during the immigration process.

Abortion has taken on many forms, with many justifications, throughout all known cultural history. In ancient times, midwives and/or healers propagated knowledge of various herbal concoctions which could end an unwanted pregnancy. From early historical examples, we've learned that the usual reasons were social embarrassment; perhaps the pregnancy was the result of an illicit union with someone other than the proper husband, or perhaps there was no husband at all to explain a woman's sexual activity. In earlier times, and in different cultures, unwanted children could also be abandoned or murdered after birth. This latter method of eliminating undesired offspring is observable in nature; among lions and bears, for example, it is routine for victorious male challengers to kill the offspring of the predecessor, thus causing the female(s) to come into estrus so they could bear the new sire's brood.

Are we humans so far beyond that animal nature? I'd refer you to frequent reports of infanticides (particularly of female infants, deemed less desirable than males), in India and China, where population growth has run amok for decades.

In times of warfare and invasion, it has been historically common (and it is occasionally reported in modern times, too) for warriors to slaughter enemy children; as for abortion, many a pregnancy has been terminated in vitro by violent use of slashing or stabbing weapons, clubbing, or other forms of trauma inflicted upon the mother.

Family and/or community leaders in many cultures, across countless eons, and during wartime or peace, have forcibly removed a newborn from the arms of its mother for reasons we'd condemn as cruel in America today.

Or would we? My own generation, coming of age just after the "free love" era of the 1960s, grew up dreading the unintended pregnancy, and the choices it would force upon the parent(s): Marry each other, and deal with that forced situation; place the child in a state- or church-managed adoption home, to be given later to strangers who have little or no means of identifying the child's parents if the child becomes curious later on; rely upon the extended family to help to raise the child, with or without burdening the mother

with actual public acknowledgement of parenthood; or, "take care of it" by having an abortion. These sound like a wide variety of choices, but as teens exploring our sexuality in the '70s, they were uniformly dreaded as unacceptable consequences (even as we watched one after the other of our female friends have to make the choice). For those who chose to keep their babies, family ostracism was common, leaving a large percentage of such unfortunate young, unwed mothers to raise their babies on welfare, often without completing their High School education, and only rarely receiving financial or other assistance from the fathers. That's a tough sacrifice to expect of a teen girl, all for the "sin" of having given in to the various influences of young lust. Before abortion found legal protections

under federal law, it was common for young women who sought to terminate unwanted pregnancies to have no legitimate medical option. "The back alley abortionist" is almost a caricature today, largely because of legalized medical practitioners who have suitable training and resources to carry out the act in a sanctioned medical facility. Still, extreme protest pressure, harassment of abortion seekers, and even the outright murder of abortion doctors by terroristic "Pro-Lifers" have made it increasingly difficult for a legal medical practice to perform abortions today.

Baby boomers may not have had to face the back alley variety, but our parents were sometimes faced with the unenviable choice of visiting an illicit abortionist (who often had little or no training, and seldom had much in the way of moral constraint), or staying in a "girls' home" where their children would be birthed and hustled off for adoption (all

From *The Married Woman's Private Medical Companion*

INTRODUCTORY REMARKS.

In introducing a subject of the nature treated of in this volume we are perhaps treading upon interdicted if not dangerous ground, for the world is not free from those pseudo-moralists, who would check, and, if possible, arrest the onward progress of medical and physiological science, and compel all to trudge on in the old beaten path, neither turning to the left nor the right, much less to look forward, but cast their glance backward. And although they behold every other science marching with rapid strides to comparative perfection: — what through the agency of steam and iron rails, space as it were, annihilated; what but yesterday, comparatively speaking, required weeks to perform, a few hours now suffice; nay the lightning fluid itself is made subservient to man's powers of discovery and ingenuity, transmitting intelligence from distant points with the speed of thought: — yet, in physiological and medical science, we are required to be as an immovable rock, upon which the overwhelming billows of physiological science and discovery are to wash fruitlessly and in vain, to recede back into the dark sea of ignorance.

quite secretly, to avoid shaming the girls' families!)

Suppose we had a much more perfect world, and that unwanted pregnancies could either be avoided, or carried to term without risk to the mother. Suppose that prompt adoption following an unwanted pregnancy could be guaranteed, and that the adoptive parents would somehow manage to raise those children unflinchingly into good, responsible, contributing members of society. Suppose that the birthmothers would not live with uncounted years of wondering how and where the child they'd born was living, nor feel grief or self-doubt about the adoption decision. Yes, in such a world, the Pro-Life perspective would hold much greater merit, and there could be little sensible argument in favor of terminating pregnancy.

But we don't HAVE such a world, or one even close. People FREQUENTLY fail to use contraceptives when they copulate; contraceptives which are used, sometimes fail. Pregnancies are OFTEN conceived during acts of evil or poor judgement, which nearly anyone would agree at least merit CONSIDERATION of the option of abortion (rapes and/or incest are certainly crimes, and yet both can be committed under either severe or diminished degree, such as consensual statutory rapes, or consensual incest between somewhat distant, or unknowing, relatives). One of the strongest arguments against recreational intoxication is the possibility that it will lead to poor sexual judgement, perhaps leading to unwanted or potentially-dangerous pregnancies.

And, even the most sincerely desired, carefully planned pregnancy might endanger the health of the mother in any of several ways. What of the ever-present slim chance of a severe birth defect in the fetus; if discovered early, uncorrectable, and sufficiently harmful to the child's future life, can there be an ethical judgement made to terminate the pregnancy, or is it truly beyond human jurisdiction to make such a call?

Finally, I think it's also important to consider that miscarriage also occurs with great frequency in human reproduction. Sometimes, the mother's own body detects that the pregnancy is a failure, and the body itself spontaneously miscarries. At other times,, the mother's behavior might (intentionally, mistakenly, or in complete ignorance) cause a miscarriage/abortion (alcohol/drug use, physical stresses, injuries, and various other circumstances can all cause a pregnancy to abort). It is currently a social euphemism to call any accidental abortion a "miscarriage," and it remains unknown how many reported "miscarriages" have actually been deliberate abortions to which the mother simply didn't wish to be held to account.

As an adolescent who imagined his opinion mattered, I

once took the fence-sitting position on abortion; I argued that it was not my place, nor any male's, to decide what a pregnant woman should do with her fetus. Later, as I and my friends began to contemplate potential fatherhood's benefits, I grew to recognize that a father should have some (measured and rational) say in the fate of his potential offspring, one highly dependent on a wide variety of considerations and circumstances. Later still, as one able to see a wider picture involving the benefits and burdens that bringing a child into this world can have on extended families, and on the wider community itself, I began to wonder how anyone could be

entitled to hold an a priori position (either way) on the subject of abortion; shouldn't each and every instance of an unwanted pregnancy be given thorough, sober, open-minded evaluation, taking into account the broadest practical scope of all relevant factors? And in order to be legally entitled to make responsible decisions where necessary, isn't it necessary to first have a Pro-Choice entitlement?

I think that, for "critical thinkers" in particular, Pro-Choice very nearly HAS TO BE the default position, even if one then proceeds with the deliberations from a vigorously conservative perspective; without the option for abortion being on the table, there is inherently no decision to be made, and there can be no responsibility, reason, or ethicality exercised. If abortion is someday to become illegal, then we will be forcing uncounted desperate women to accept the majority of the burden of

consequence for acts men shared in, or to seek recourse through illicit means that place their health, their minds, and their freedom in jeopardy.

If any part of our culture holds people accountable for their own choices and actions, and if we propose that the best way to decide an issue is to apply rational thought to it, then mustn't we permit potential parents the right (and expect of them the responsibility) of an informed, reasoned, and deliberate decision on issues such as abortion? Given legislated limitations (for example, banning late-term abortions, when the fetus could viably survive outside the womb, etc.), I suggest that we must leave the option of legal, medically-performed abortions on the table for any expectant parent to consider.

Paul Schlueter III is serving Life in Prison in NE Pennsylvania. His supporters have created a website about him. www.jaylbird.org

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Madame Restell arrested



Wagner Free Institute of Science

Adult Education Course Schedule Spring 2012 Courses

Wagner Free Institute of Science courses are open to the general public and are FREE and Open to the General Public, but donations are very appreciated. Courses are taught at the undergraduate level.

Tropical Botany and Ecology, Professor Karen Snetselaar. 1 Tuesday and 5 Mondays, January 17 - February 20, 2012, 6:30 - 8:00 PM. Pennsylvania Horticultural Society, 100 N. 20th Street (20th and Arch Streets). This course will provide an introduction to the diversity and ecological role of plants in tropical ecosystems. Topics will include characteristics of different types of tropical forests, adaptations of specific tropical plants, and interactions between tropical plants and animals. We will also discuss the implications of human exploitation of tropical rain forests and current conservation practices. Preregistration is required. You may register online at <https://events.r20.constantcontact.com/register/eventReg?oeidk=a07e5asi1bue9b32d75&oseq=> or call (215) 763-6529, ext. 23.

The Dog and Its DNA, Professor Mary Beth Davis. 6 Wednesdays, January 18 - February 22, 2012, 6:30 - 7:45 PM. Independence Branch of the Free Library, 18 S. 7th Street (between Market and Chestnut). This course will discuss the evolution and domestication of the dog, including recent genetic studies that shed light on the morphological and behavioral diversity of dog breeds. This course will examine recent findings that shed light on the genetic basis of morphological and behavioral diversity of dog breeds. For thousands of years dogs have been loyal, hard-working companions of humans, not surprising since humans have been selectively breeding dogs that possessed the most desirable attributes for 15,000 years. More than 400 dog breeds are recognized worldwide. Breeds differ tremendously in physical attributes and temperaments, and yet comprise a single species. Advances in genomic sciences provide new approaches to studying canine biology. The completion of the Dog Genome Project and progress in genetic mapping has enabled comprehensive DNA studies of many breeds. These studies inform on many interesting biological questions - evolution of form and function, behavioral genetics, and complex disease mechanisms. No preregistration required.

Topics in the History of Life, Professor Jason Downs. 8 Saturdays, January 28 - March 17, 2012, 10:30 AM - Noon. University of Pennsylvania Museum of Archaeology and Anthropology, 33rd and Spruce Streets. Paleontology is a uniquely important science that goes beyond the theoretical questions of how life changes over time to the question of what actually happened during the history of life on our planet. This course will introduce the different types of questions that paleontologists ask and their various sources of data. A typical history of life course presents a step-by-step walkthrough of time or evolutionary history. This course will take a topical approach to the subject presenting not only 'what we know' but also 'how we know it.' Preregistration is required. You may register online at <https://events.r20.constantcontact.com/register/eventReg?oeidk=a07e5atvq6m1c685872&oseq=> or call (215) 763-6529, ext. 23.

Introduction to Pollination Biology, Professor Tatyana Livshultz. 6 Wednesdays, March 21 - April 25, 2012, 6:30 - 7:45 PM. Independence Branch of the Free Library, 18 S. 7th Street (between Market and Chestnut). Pollination evolved 360 million years ago with the evolution of seed plants and is ubiquitous in all landscapes dominated by them. This course will survey the science of pollination biology, including the discovery of plant pollination in the late seventeenth century, plant adaptations to animal pollination and how they evolve, the diversity of pollinating animals, the many ways that plants manipulate animals to achieve pollination, and the importance of pollination to human society. No preregistration required.

Agricultural Science and Policy, Professor David Hewitt. 6 Mondays, March 26 - April 30, 2012, 6:30 - 8:00 PM. Pennsylvania Horticultural Society, 100 N. 20th Street (20th and Arch Streets). This course will provide scientific background to understand selected current issues in agricultural and food policy. Subjects will include ecology, physiology (plant and animal), genetics and molecular/cell biology and will be integrated into discussions of topics in fertilizer production and nutrient management and seed production and biotechnology. Other topics will be discussed. Preregistration is required. You may register online at <https://events.r20.constantcontact.com/register/eventReg?oeidk=a07e5atznm93fafb8a5&oseq=> call (215) 763-6529, ext. 23.

PhACT CALENDAR

PhACT Events

Dr. David Cattell, Chairman of the Physics Department of Community College of Philadelphia hosts meetings of PhACT - at 2:00 PM on the third Saturday of most months at Community College of Philadelphia... Parking is easily available and costs \$4.00 for all day. Enter the college parking lot on 17th Street which is one way south bound. This meeting site is handicap accessible. **PhACT Meetings are Free and open to the public unless otherwise noted.**



Saturday, January 21, 2012 - Physicist Tom Napier, a long time member of PhACT, will discuss New Developments In Cold Fusion.

Hydrogen fusion keeps the Sun and stars burning and powers our most deadly weapons. Fusion energy, if we could find a way to release it on a small scale, would supply mankind's requirements for millions of years. But, despite the expenditure of billions of dollars, controllable fusion remains a dream --- except in the minds of a few isolated experimenters and their ardent fans. In this talk Tom explains why physicists are skeptical of "cold fusion" and questions whether two old guys in Bologna can put the oil companies out of business before the end of 2012.

In Lecture Room C2-28 in the Center for Business and Industry at the corner of 18th and Callowhill Streets. At 2:00 PM

Saturday, February 18, 2012 - Drexel Professor Stacy Ake will speak on "Bioethics and the Evolution of Consciousness"



Saturday, March 17, 2012 - TBA

Monday, JANUARY 9, 2012 at 6:00 PM - Science on Tap takes place at 6pm on the second Monday of every month at National Mechanics, 22 South Third St., Philadelphia 19106

Science on Tap is a monthly gathering that features a brief, informal presentation by a scientist or other expert followed by lively conversation

<http://scienceontapphilly.com/>

"When Good Drugs Go Bad"

Antoinette Thwaites, Forensic Chemist

Vicodin, OxyContin, Adderall, Ritalin: the United States is currently experiencing an unprecedented rise in prescription drug abuse. Antoinette Thwaites, a forensic chemist with the Philadelphia Police Department and President of the Association of Women in Forensic Science, will discuss this trend, the effects prescription drug abuse can have on the body, and the role forensic chemists play in identifying drugs—prescription or non—found at crime scenes. She'll also explain how to safely dispose of unused medications—an important preventative measure—and the warning signs of prescription drug abuse.

This month's Science on Tap is presented by Chemical Heritage Foundation.

Ages 21+ or accompanied by a chaperone 25 years or older. Free.

Wednesday, January 11, 2012 at 7:30 PM. Philadelphia Nerd Nite, an evening of good food, beer, and science lectures, at Frankford Hall at Frankford and Girard Avenues. is generally on the second Wednesday of the month. Check the website for details at

<http://philadelphia.nerdnite.com/updates/>

Doors open at 7 pm, and the show will start at 7:30. \$5 cover.

The lecture line-up:

"A Nerd's Survival Guide to Biking Across the Country" by Geoff Cotter

"Why That Kid is Hanging from the Overpass to Paint His Name" by Ryan Derfler

and "The radiowaves are coming for your sperm, and other myths of the cell phone era" by Scicurious

Local musician Gretchen Lohse and comedian Will Dean will provide the night's entertainment amongst the nerdiness.

The **PhACT Calendar** is open to members and non-members who wish to announce meetings and events of other groups of which they are interested or affiliated. These events should be of some general interest to the Skeptical or Scientific community and should be within a reasonable radius of Philadelphia. Send submissions to the editor at phactpublicity@aol.com. Keep the announcements brief. Space is limited and insertions will be made on a first come-first served basis after the needs of PhACT are accomplished. Phactum does not accept paid advertising.

Wednesday, January 11, 2012 at the Franklin Institute.

The Rittenhouse Astronomical Society meets the second Wednesday of the month.

<http://www.rittenhouseastronomicalsociety.org/>

Friday, January 13, 2012 at 9:30 am-11:00 am at The Academy of Natural Sciences, 1900 Benjamin Franklin Parkway, Philadelphia, PA 19103 www.ansp.org

Town Square: A Conversation on Urban Sustainability for All Communities

In March 2011, building on progressive work of local officials in cities around the world, the U.S. and Brazil agreed to collaborate through a Joint Initiative on Urban Sustainability (JIUS) to generate economic growth, create decent jobs, eradicate poverty and protect the environment by focusing on increasing investment in green infrastructure and city-scale green technology strategies. This Joint Initiative brings together public and private leaders from the U.S. and Brazil to serve as a platform for actions addressing the challenges and opportunities of developing urban infrastructure that promotes sustainable development with concrete economic, social and environmental benefits.

Please join us for a conversation with Michael Nutter, Mayor of the City of Philadelphia, Izabella Teixeira, Minister of the Environment of Brazil, and Lisa Jackson, Administrator of the U.S. Environmental Protection Agency as they discuss the Joint Initiative on Urban Sustainability and their priorities for investing in building greener economies and smarter, healthier, more equitable communities in Philadelphia, Rio de Janeiro, and in cities around the world.

This event is free but please RSVP: <http://jius.eventbrite.com/>

Wednesday, January 18, 2012 at 12:00n - 1:00PM at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

http://www.collphyphil.org/prog_calendar.htm

Food & Thought: "Mozart, Montequieu and Medicine: Why the Liberal Arts Matter"

Speaker: Rebecca Chopp, M.Div, PhD, President, Swarthmore College

Why have the liberal arts been so valued in this country, both as a way to prepare for various professions, including careers in medicine, and as a necessary preparation for United States citizenship? How does a broad-based course of study in subjects as diverse as literature, philosophy, mathematics, music, art, and social and physical sciences enhance the effectiveness of professionals in all fields and enrich our community? In this talk, Rebecca Chopp will consider the current challenges to and opportunities afforded by the liberal arts in modern society.

Fee for lunch. To register: <http://sadoff.eventbrite.com/>

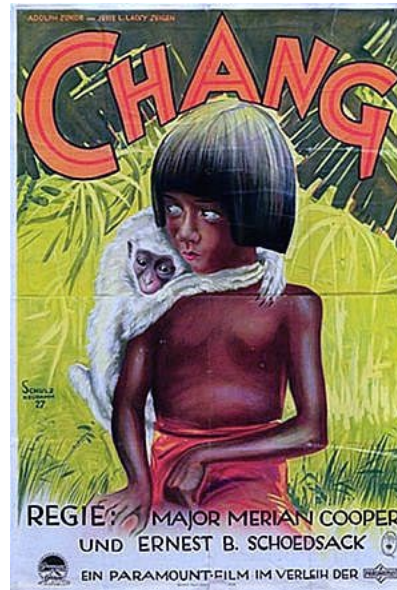
Wednesday, January 18, 2012, 6:00 pm at University of Pennsylvania Museum, 3260 South Street, Philadelphia, PA 19104

<http://www.penn.museum/events-calendar>

Film: Chang: A Drama of the Wilderness, 1927

The Secret Cinema is known for presenting classic films of all genres from B-films to mega-budget Hollywood classics to obscure shorts, always in 16mm film-never video! Jay Schwartz, founder of Secret Cinema, curates a special series of films specifically for the Penn Museum in 2011-

2012. Join us for what promises to be unique adventures in foreign lands, and free popcorn!



Before they dreamed up that oversized ape, King Kong's creators Merian C. Cooper and Ernest B. Schoedsack filmed this amazing semi-documentary film, which was, along with the team's earlier Grass, an early example of the adventure-exploration movie. Chang is not only the obvious prototype for their later masterpiece, King Kong, but a terrifically entertaining film in its own right. Shot entirely on location in Siam under dangerous conditions, the film tells the story of a farmer and his family who have settled a small patch of land on the edge of the jungle. Their existence is a constant struggle

against the many wild animals around them bear, tigers, and even changs! The climactic elephant stampede remains one of the most exciting scenes in cinema history.

Free with Museum admission. Free with your PennCard.

Thursday, January 19, 2012 at 6:30 - 8 p.m. A Historical Society of Pennsylvania event hosted at the Franklin Institute.

<http://www.hsp.org/>

City of Firsts

Philadelphians have claimed the title "City of Firsts" for achievements such as the first hospital in America and the first municipal water system. This discussion focuses on innovation, especially in science and technology. Hosted at the Franklin Institute.

Moderated by Babak Ashrafi of the Philadelphia Area Center for History of Science with panelists including Michael Zuckerman of the University of Pennsylvania; Keith Thomson, professor emeritus of natural history at the University of Oxford, senior research fellow at the American Philosophical Society, and former director of the Academy of Natural Sciences; Steven Peitzman of the Drexel University College of Medicine; and Grover Silcox of WLVT PBS39. Program co-sponsors include the Philadelphia Area Center for History of Science, the Franklin Institute, and the Academy of Natural Sciences.

This event is part of the Greater Philadelphia Roundtable series "Phrasing Philadelphia" presented by the Encyclopedia of Greater Philadelphia. For more information about this series, visit www.philadelphiaencyclopedia.org Teachers may receive Act 48 credit. FREE

Thursday, January 19, 2012 Networking Reception: 6:00-6:30 pm - Program: 6:30-8:30 pm at The Academy of Natural Sciences, 1900 Benjamin Franklin Parkway, Philadelphia, PA 19103

www.ansp.org 215-299-1108

Walkability: Philadelphia Strides Into the Future (An Urban Sustainability Forum)

Join us on January 19 for the Academy's first-of-the-year Urban Sustainability Forum on the many current efforts to make Philadelphia more pedestrian-friendly. Speakers will discuss ways our city can jump from fifth to first place among the country's most walkable cities, offering various health, economic, and environmental benefits to its residents. Bring your questions for our experts so that you can learn more about how to bring Philadelphians out of their cars and into a healthy, exercise-friendly, and sustainable city.

Featuring:

Free. To register: <http://phillywalks.eventbrite.com/>

SOCRATES CAFE is moderated by: Lewis Mifsud, Ph.D., P.E., a member of PhACT and of The American Academy of Forensic Sciences. At 7:00 PM every Monday evening except holidays (on Tuesdays after a Monday holiday) at the Springfield Township Public Library (215-836-5300) at 1600 Papermill Mill Road, Wyndmoor, PA. 19038. This philosophical discussions group is free and open to the public. Join us and share your critical thinking, questions and opinions.



PhACT Event

**Saturday, January 21, 2012 - Physicist Tom Napier will discuss
New Developments In Cold Fusion.**

See Page 1 for more information

Saturday, January 21, 2012 at 1:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurehillcemetery.org>

Breaking the Ice in the Language of the Dead: Victorian Funerary Symbolism

Join Laurel Hill Cemetery for the first program of 2012! Victorian Philadelphians loved visual symbolism, and even their simplest grave markers are likely to be ornamented by ivy (for eternal life), lilies (for resurrection) or hour glasses (for brevity of life). Oftentimes, the symbolism is both lavish and individualized. A civic reformer is memorialized with a bas-relief showing the Schuylkill Canal and the Philadelphia Water Works. A prison reformer is celebrated with a grand model of Moyamensing Prison. A shattered column, a cavalry officer's sword and a pair of spurs mark the resting place of one of the first soldiers to die at the Battle of Little Big Horn, infamously known as Custer's Last Stand. A mother who died in childbirth is compellingly depicted clasping her two dead babies. Nineteenth-century Philadelphians understood Laurel Hill not only as a cemetery, but also as a vast sculptural garden and retreat. Accordingly, they came by the thousands to read the symbolic messages that the dead had left for the living. The walking tour will be led by Dr. Michael Brooks, Professor Emeritus of West Chester University. It will conclude with cookies and refreshments.

\$12/person; \$10/seniors + students; \$9/members

Tickets can be purchased at the door, or in advance online, or by calling 215.228.8200.

Monday, January 23, 2012, at 7:00 PM in the Montgomery Auditorium, located in basement of the Free Library of Philadelphia (1901 Vine Street, Philadelphia, Pennsylvania).

Dr. Andrew Newberg will present "God and the Brain." His presentation will discuss current knowledge about brain processes as they relate to religious and spiritual phenomena. Topics will include religious belief systems, the experience of God, and practices such as prayer and meditation. The implications of this research for both science and religion will also be presented.

Dr. Newberg is the Director of Research at the Myrna Brind Center of Integrative Medicine at Thomas Jefferson University and Hospital in Philadelphia. He is also a Professor in the Departments of Emergency Medicine and Radiology at Thomas Jefferson University.

<http://www.FtSociety.org>

Tuesday, January 24, 2012 at 12:00 to 1:00 p.m. at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

Tel: 215-925-2222 •

<http://www.chemheritage.org>

Brown Bag Lecture: A talk by Christine Nawa

check website for more information

Free and Open to the Public.

Friday, January 27, 2012 at 10:00am at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurehillcemetery.org>

Laurel Hill: The Hot Spots and Storied Plots

Join us for this informative overview of Laurel Hill's long and colourful history, which will include many of the marble masterpieces, stunning views and legendary stories that afford the cemetery its WOW factor. This is the ultimate tour for first-time visitors to Laurel Hill, and anyone else who likes beautiful art, stimulating history, and just enjoying life...even amongst the dead. This walking tour will be led by Victorian-era living

historians and board members, Ed and Mary Quinn. NEW Hot Spots and Storied Plots will be presented monthly as part of Laurel Hill Cemetery's Fourth Friday tour series, which take place on the fourth Friday of every month at 10:00am.

\$8/general admission; \$5/members

Tickets can be purchased at the door, or in advance online, or by calling 215.228.8200.

Saturday, January 28, 2012 at 1:00 to 4:00 PM at Historic RittenhouseTown, 206 Lincoln Drive • Philadelphia, PA 19144 • (215) 438-5711 • information@rittenhousetown.org

Hand Dipped Candles with Clarissa Dillon

Join local cultural historian Clarissa Dillon in making your own hand dipped candles. This program is recommended for ages 8 to adult, and takes place in an unheated indoor workspace so please dress appropriately. Reservations and advance payment required. For more information or to make reservations call 215. 438.5711 or visit www.rittenhousetown.org. Cost: \$30

Tuesday, January 31, 2012 at 12:00 to 1:00 p.m. at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

Tel: 215-925-2222 • <http://www.chemheritage.org>

Brown Bag Lecture: A talk by Michael Gordin.

The periodic system of chemical elements is quite possibly the most omnipresent icon of modern science, and is certainly ubiquitous in all of contemporary chemistry, easily locatable in literally every chemistry textbook and the vast majority of chemical classrooms. Credit for the discovery of this system has been a contentious topic of discussion since the 1860s, when it was first formulated by (depending on how you count) up to six independent discoverers. This talk will explore aspects of the priority dispute over the periodic table between its two main claimants, St. Petersburg chemist Dmitrii I. Mendeleev (1834-1907) and Julius Lothar Meyer (1830-1895), first to interrogate the category of "priority" in general, and then to examine the specific role this debate played in the catapulting of the Russian language from a negligible mode of scientific communication to a significant language alongside English, French, and German as languages of chemistry in the late nineteenth century.

Michael Gordin specializes in the history of the modern physical sciences and Russian history, and currently serves as the director of the Program in Russian and Eurasian Studies at Princeton University. He has published articles on a variety of topics, such as the introduction of science into Russia in the early 18th century, the history of biological warfare in the late Soviet period, the relations between Russian literature and science, as well as a series of studies on the life and chemistry of Dmitrii I. Mendeleev, formulator of the periodic system of chemical elements. In 2011 he was awarded a National Endowment for the Humanities Fellowship and was named a Guggenheim Fellow. Gordin came to Princeton in 2003 after earning his A.B. (1996) and his Ph.D. (2001) from Harvard University, and serving a term at the Harvard Society of Fellows. Free and Open to the Public.

Wednesday, February 1, 2012, at 6:30 pm at The Academy of Natural Sciences, 1900 Benjamin Franklin Parkway, Philadelphia, PA 19103

www.ansp.org 215-299-1108

Author talk followed by book signing

An Evening with Ross MacPhee, author of Race to The End

"Had we survived, I should have had a tale to tell..."

—Robert Falcon Scott at the South Pole

Exactly one hundred years ago, two teams—one British, the other Norwegian—raced for the honor of being the first humans to stand at the South Pole. Roald Amundsen and his Norwegian team won; Robert Falcon Scott and his companions eventually reached the pole but died on their return to base. What motivated this race for glory on the last place on Earth? What was learned at such a cost? Ross D. E. MacPhee, author of *Race to The End: Amundsen, Scott, and the Attainment of the South Pole*, presents the story of the conquest of the last great geographical prize on Earth and its modern relevance for science and discovery in Antarctica.

Ross MacPhee is curator of mammals at the American Museum of Natural History in New York City. Fascinated by the evolution of life on

southern continents, MacPhee travels annually to Antarctica to search for fossils of ancient mammals and other vertebrates. This event is free and open to the public.

Wednesday, February 1, 2012, at 6:00 pm at University of Pennsylvania Museum, 3260 South Street, Philadelphia, PA 19104

<http://www.penn.museum/events-calendar>

Great Riddles in Archaeology Lecture Series

Ötzi the Iceman: The Puzzle of a 5,300 Year-Old Alpine Mummy

In 1991, two German tourists discovered a frozen body emerging from the melting ice of a glacier in the Alps along the Italian-Austrian border. Although it was initially believed to be a modern corpse, it quickly became apparent that the body was quite ancient, mummified naturally in the frozen environment. The discovery set off a frenzy of examinations and testing, as well as a series of disputes about the discovery and ownership of the mummy, and even claims of a "mummy's curse." Nicknamed "Ötzi" after the Ötz Valley in which he was found, the male mummy has been dated to approximately 5,300 years ago. Dr. Thomas Tartaron, Assistant Professor of Classical Studies, University of Pennsylvania, recounts the story of Ötzi's discovery and subsequent investigation, separating fact from fiction. Admission: \$10 at the door; \$5 with advance registration; free for Penn Museum members with advance registration.



Thursday February 2, 2012, at 12:00 to 1:00 pm at University of Pennsylvania Museum, 3260 South Street, Philadelphia, PA 19104

<http://www.penn.museum/events-calendar>

Pergamon and its Maritime Satellite Elaia: New Research on Urban Space and the Territory of a Hellenistic Capital

Felix Pirson, Director of the German Archaeological Institute in Istanbul, and director of the Pergamon Excavations

The Pergamon-Excavation of the German Archaeological Institute (DAI) looks back to a history of more than 130 years reflecting various trends in archaeological research. Currently, the layout of the city as a whole, its relation with the suburban areas and with the territory are major points of interests. Such an approach needs to look far beyond Pergamon itself, but has to include neighbouring cities such as Elaia, which became the main anchorage of the Hellenistic capital. The aim of the paper is to present first results of the new research program and to show how modern field archaeology produces data for spatial approaches currently discussed in the humanities. In this context, a particular focus will be laid on the 2010-excavations of so-called natural sanctuaries at Pergamon and on the tumuli (gravemounds) of Pergamon.

Additionally, the German Pergamon excavation has a long-lasting and outstanding record in conservation projects. The paper will give an impression of our work at the Temple of the Egyptian Gods (The Red Hall) and present the latest results. Free with Museum admission.

Tuesday, February 7, 2012 at 12:00 to 1:00 p.m. at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

Tel: 215-925-2222 • <http://www.chemheritage.org>

Brown Bag Lecture: A talk by Melanie Kiechle

How did a mid-nineteenth-century concern with stench become a Progressive Era fight against smoke? Why did smoke transform from a symbol of civic pride and progress to the harbinger of a polluted atmosphere? This talk will provide one answer to these questions by closely examining the connections between anti-stench and anti-smoke agitation. Rather than viewing the anti-smoke crusades as a departure from earlier complacency about industrial pollution, this talk situates the fight against smoke as a direct outgrowth of earlier worries about bad odors. The talk will focus on the significant role that the graphic press played in

the transition from smell to smoke. The demands of a visual medium mandated sensory translation; as artists tried to illustrate the New York City health concerns about Hunter's Point, they sought an iconography for smell, and found their answer in billows of smoke. By focusing on the interplay between the senses of smell and sight, this talk—and its many illustrations—will explain the historically contingent reasons that visions of smoke, rather than stench of industry, launched a widespread campaign for improved air quality.

Melanie Kiechle is currently completing her dissertation, "The Air We Breathe": Nineteenth-Century Americans and the Search for Fresh Air" in the history program at Rutgers University. She is in residence for 2011-12 at the Chemical Heritage Foundation as a Mellon/ACLS Dissertation Completion Fellow. Free and Open to the Public.

Wednesday, February 8, 2012 at 7:30 PM. Philadelphia Nerd Nite, an evening of good food, beer, and science lectures, is generally on the second Wednesday of the month. Check the website for details at <http://philadelphia.nerdnite.com/updates/>

Thursday, February 9, 2012 - 4:00 - 7:00 PM - Lecture at 5:30 PM at the Wagner Free Institute of Science, 1700 West Montgomery Avenue, Philadelphia, PA 19121

ph 215-763-6529 www.wagnerfreeinstitute.org

Weeknights at the Wagner

What's Love Got To Do With It?

Fertilization Imagery in the Art of Gustav Klimt, Frida Kahlo, and Diego Rivera

An Illustrated Lecture by Dr. Scott Gilbert, Swarthmore College

Thursday, February 9, 2012 - Doors open at 6:30 pm - at The Academy of Natural Sciences, 1900 Benjamin Franklin Parkway, Philadelphia, PA 19103 www.ansp.org

Mega-Bad Movie Night!

The Lost World: Jurassic Park

Join us at the Academy after hours to watch some "awesomely awful" movies. The Academy's own experts will be onstage to comment on the many scientific absurdities—think Mystery Science Theater 3000!

We're getting started at a new, earlier time so you have a chance to look around before the movie begins at 8 pm! Grab some snacks and a beer, and then check out the many cool things on display at the Academy. We'll unveil some amazing fossils from our Paleontology Collection.

Register: mbmthelostworld.eventbrite.com/



Thursday, February 9, 2012 at 7:30PM at Central Library, 1901 Vine Street, 19103, 215-686-5322

Walter Isaacson | Steve Jobs

Bestselling biographer Walter Isaacson is the author of Benjamin Franklin: An American Life, Kissinger: A Biography and Einstein: His Life and Universe. He is the president and CEO of the Aspen Institute for educational and policy studies. The recipient of several awards for his reporting, including the Overseas Press Club Award for foreign news interpretation, Isaacson has served as the Chairman and CEO of CNN and as Editor of Time Magazine. His timely new biography of the late Apple chief executive is a testament to an icon that represented the intersection of creativity and technology. Composed of more than 40 interviews with Jobs himself, as well as with more than 200 friends, colleagues, and adversaries, Steve Jobs traces the unprecedented career and extraordinary life of the beloved pioneer.

Pine Tree Foundation Endowed Lecture

Cost: \$15 General Admission, \$7 Students

<http://libwww.freelibrary.org/calendar/>

Limit of two tickets per person

Friday, February 10, 2012 -- Delaware Valley MENSA General Membership is generally on the 2nd Friday of the month. Check the MENSA calendar at: http://dvm.us.mensa.org/calendar.shtml#gm_meeting

Friday, February 10, 2012 at 7:00 PM in the Greater Plymouth Community Center, 2910 Jolly Rd, Plymouth Meeting, PA.
Delaware Valley Amateur Astronomers

Lunabots and the Rocksat Suborbital Mission

Professor John J. Helferty, Temple University Dept. of Engineering.

Free and Open to the General Public

<http://dvaa.org>

Saturday, February 11, 2012 at 1:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillcemetery.org>

Til Death Do Us Part: Love Stories of Laurel Hill

Join us for this tour and reception honoring the "spirit" of Valentines' Day. Love and Death: The preferred subjects of poets and philosophers across eras and oceans, subjects intertwined in their great mystery, in their power to inspire, to destroy, and to change our worlds forever. Some may contend that death cannot bring an end to true love, while others deem only love itself to be more unforgiving than death. The love stories of Laurel Hill are as varied as the hearts from which they have sprung...Hearts no longer intact, though perhaps still beating...for someone...somewhere. While many of the stories we'll hear may certainly warm our hearts, the rest of our appendages may be subject to the stone-cold of a cemetery winter; dress appropriately. Red wine, hot chocolate and sultry bites aside a toasty fire will warm your flesh afterwards.

\$20/person; \$18/students and seniors; \$17/members. Advance registration is requested. Tickets can be purchased online, or by calling 215.228.8200.

Monday, February 13, 2012 at 6:00 PM - Science on Tap takes place at 6pm on the second Monday of every month at National Mechanics, 22 South Third St., Philadelphia 19106

Science on Tap is a monthly gathering that features a brief, informal presentation by a scientist or other expert followed by lively conversation.

<http://scienceontapphilly.com/>

"Violence in the Laboratory: How Science Changed War and War Changed Science"

M. Susan Lindee, Professor and Associate Dean for the Social Sciences, School of Arts and Sciences, University of Pennsylvania

Over the last century both science and war have been transformed in tandem. Science has become more tightly linked to militarization and state power. Today, many forms of scientific research are supported with military funding sources even when the subject matter (e.g. mapping genes, tracking environmental change, or studying the brain) seems remote from any practical application on the battlefield. At the same time, military conflict has become more technically sophisticated in ways that have reshaped the battlefield experience for both soldiers and civilians. We now see remarkable levels of "asymmetrical risk," for example, in which combatants commuting to a center in the American Southwest can guide attacks with drones at sites on the other side of the world. Scientific, high-tech warfare changes the rules of both war and science. In this discussion, Dr. Susan Lindee will raise questions about how science and war have both changed in the 20th century.

This month's Science on Tap is presented by the American Philosophical Society (APS) Museum

Ages 21+ or accompanied by a chaperone 25 years or older. Free.

Wednesday, February 15, 2012 at 12:00n - 1:00PM at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

http://www.collphyphil.org/prog_calendar.htm

Food & Thought: "Who Suicides, and Why?"

Speaker: George M. Wohlreich, MD, FCPP, The College of Physicians

of Philadelphia; staff psychiatrist at Pennsylvania Hospital and a Professor of Psychiatry (Adjunct) at the University of Pennsylvania School of Medicine and the Temple University School of Medicine

Suicide, rarely talked about, is the ninth leading cause of death in the United States. There are some age cohorts in which it is one of the top three causes.

This talk will discuss our understanding of common factors associated with suicide, and factors that are unique to certain age, religious, socioeconomic, and ethnic groups. We will also consider why people commit suicide, risk factors, problems of prediction, general preventive and protective mechanisms, and the possibility of treating actively suicidal people.

In this talk, Dr. Wohlreich will try to make this formerly taboo topic more approachable and understandable.

Fee for lunch. To register: <http://wohlreich.eventbrite.com/>

Wednesday, February 15, 2012 Networking Reception: 6:00-6:30 pm

Program: 6:30-8:30 pm at The Academy of Natural Sciences, 1900 Benjamin Franklin Parkway, Philadelphia, PA 19103

www.ansp.org/environmental/
215-299-1108

**An Urban Sustainability Forum
High Tunnels: A Sustainable Solution for Local Urban Agriculture**



At this Urban Sustainability Forum, find out how high tunnels could help improve access to affordable, nutritious foods in Philadelphia. High tunnels are

nonelectric, temporary structures that consist of a layer of plastic over a pipe frame. These structures, however, are not greenhouses. They do not require a permanent heating or ventilation system, ventilation is accomplished manually, and there are no furnaces or fans. High tunnels can extend the growing season and improve the yield and quality of vegetables, small fruits, and cut flowers.

Urban farming is a fast-growing movement in the United States, especially in Philadelphia. As more than 86 percent of the U.S. population now resides in or around urban areas, the sustained use of urban farming could contribute to food security, food safety, and workforce development. Increased availability of fresh and nutritious food in urban areas could combat the alarming rise of obesity and thus reduce related healthcare costs in the United States. High tunnel projects could help eliminate Philadelphia's "food deserts," or urban areas lacking access to nutritious, affordable food, and provide more fresh and nutritious specialty crops to underserved populations.

Thursday, February 16, 2012 at 7 PM at Center on the Hill in the Presbyterian Church of Chestnut Hill, 8855 Germantown Avenue.

Professor Arthur Caplan will discuss: **Ethics, Health Care, and Health Terminology: Where Are We Going and Where Should We Be Going?**

Dr. Caplan is the recipient of many awards and honors including the Franklin Award from the City of Philadelphia. He holds seven honorary degrees from colleges and medical schools. In December 2008, Discover Magazine named him one of the ten most influential people in science.

A \$10.00 donation is requested to benefit the Chestnut Hill Center for Enrichment, a senior citizens program.

PhACT Event

Saturday, February 18, 2012 - Drexel Professor Stacy Ake will speak on "Bioethics and the Evolution of Consciousness"

Saturday, February 18, 2012 at 1:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

The Victorian Celebration of Death



During the Victorian period, the burial customs and places used by western society changed greatly and for a variety of reasons. Join us for a discussion inside Laurel Hill Cemetery's historic Gatehouse concerning the rituals surrounding the death of a loved one, including clothing, burial processions, monuments and symbolism. Following the presentation, a tour will highlight monuments and gravestones illustrating the mourning symbolism discussed earlier, and focusing on individuals who lived (and died) in this period, such as famed painter Thomas Sully and publisher of Godey's Lady's Book, Louis Antoine Godey. This walking tour will be led by Victorian-era living historians and Friends board members, Ed and Mary Quinn. It will conclude with cookies and refreshments.

\$12/person; \$10/seniors + students; \$9/members

Tickets can be purchased at the door, or in advance online, or by calling 215.228.8200.

Tuesday, February 21, 2012 at 5:30, movie starts at 6:00 at Norristown Library Community Room, 1001 Powell Street, Norristown, Pennsylvania.

The Freethought Society's "Dinner and a Movie" event format is back by popular demand. Please bring your own dinner to the on to view "Bondage and the Bible". Attendees are encouraged to arrive between 5:30 and 5:45 PM to socialize and set up their dinner tables. FS will provide bottled water, napkins and paper plates.

"Bondage and the Bible" is a 60 minute independent film by Eric Harmon. This film includes the critical analysis of the Bible's endorsement of slavery and examines the inconsistent message in the New Testament which supports slavery and inequality. View the trailer at:

www.filmbaby.com/films/3052

For information about public transportation please see the following website: <http://www.septa.org/stations/rail/norristown.html>

Please note that no alcoholic beverages are allowed on library premises.

Donations to offset related expenses are greatly appreciated.

<http://www.FtSociety.org>

Tuesday, February 21, 2012 at 12:00 to 1:00 PM at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

Tel: 215-925-2222 • <http://www.chemheritage.org>

Brown Bag Lecture: A talk by Jeffrey Johnson.

For more than forty years, until 1939, chemical education in Germany was self-regulated by an organization called the Association of Laboratory Directors at German Universities (Verband der Laboratoriumsvorstände an deutschen Hochschulen), which collectively determined the guidelines for the pre-doctoral qualifying examination and issued unofficial certificates to students who passed. In 1939, however, the Reich Ministry of Education dissolved the Association and issued the first official national guidelines for chemical education, which were further refined during the early years of World War II. Along with this change came the first officially-

recognized certifying examination for university chemists, conferring the title "Diplom-Chemiker" (Certified Chemist), an innovation carried over into the postwar era. But this long-desired official recognition of the German chemical profession was by no means an unmixed blessing. This paper will discuss the educational reforms as the final step in the regimentation of the German chemical profession and its integration into the militarized structure of National Socialist technology in preparation for war, a process fraught with negative implications for the quality of German chemical education.

Jeffrey Johnson has taught at the State University of New York at Binghamton and since 1986 at Villanova University, where he is currently a professor of history. His research and publications have focused on the history of chemists, chemical institutions, and the chemical industry in Germany during the period from the late 19th century through World War II. In 2011 he succeeded Christoph Meinel as president of the Commission on the History of Modern Chemistry in the Division of the History of Science and Technology of the International Union of the History and Philosophy of Science. Johnson received his Ph.D. in modern European history from Princeton University with a dissertation (which became his first book, *The Kaiser's Chemists* (1990)), on the founding of the chemical Kaiser Wilhelm Institutes in pre-World War I Germany. Free and Open to the Public.

Thursday, February 23, 2012 Networking Reception: 6:00–6:30 pm

Program: 6:30–8:30 pm at The Academy of Natural Sciences, 1900 Benjamin Franklin Parkway, Philadelphia, PA 19103

www.ansp.org/environmental/

A Town Square Program: Reimagining Urban Highways

After decades of disinvestment, many American cities are rebounding and growing their cultural, economic, and environmental assets. Despite their renewal, cities such as Philadelphia, New York, New Orleans, and St. Louis are saddled with highways located in their increasingly popular downtowns.

How should cities change highways to meet 21st-century needs and contemporary urban lifestyles? This panel discussion will look at successful urban highway removal projects in Milwaukee, New Haven, and Providence and explore ways of mitigating highways in Philadelphia and the Bronx.

Featuring:

Aaron Naparstek (moderator), Loeb Fellow, Graduate School of Design, Harvard University; Streetsblog

Ashwin Balakrishnan, Southern Bronx River Watershed Alliance

Thomas Deller, Director of Planning + Development, City of Providence, Rhode Island

Diana Lind, Next American City

Peter Park, Loeb Fellow, Graduate School of Design, Harvard University

Friday, February 24, 2012 at 10:00am at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

Laurel Hill: The Hot Spots and Storied Plots

Join us for this informative overview of Laurel Hill's long and colorful history, which will include many of the marble masterpieces, stunning views and legendary stories that afford the cemetery its WOW factor. This is the ultimate tour for first-time visitors to Laurel Hill, and anyone else who likes beautiful art, stimulating history, and just enjoying life...even amongst the dead. This walking tour will be led by Friends researcher and board member, Laura Symczyk. NEW Hot Spots and Storied Plots will be presented monthly as part of Laurel Hill Cemetery's Fourth Friday tour series, which take place on the fourth Friday of every month at 10:00am. \$8/general admission; \$5/members

Tickets can be purchased at the door, or in advance online, or by calling 215.228.8200.

Tuesday, February 28, 2012 at 12:00 to 1:00 p.m. at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

Tel: 215-925-2222 •

<http://www.chemheritage.org>

Brown Bag Lecture: "Trolling for Comments: How Authors, Bloggers, and Trolls Wrangle with the Chemical Literature"

A talk by Michelle Francl.

check website for more information

Free and Open to the Public.

Wednesday, February 29, 2012 at 4:30 - 6:30 p.m. at Historical Society of Pennsylvania, 1300 Locust Street, Philadelphia, PA 19107 Telephone: 215-732-6200 <http://www.hsp.org/>

Political Reform in the Gilded Age

TEACHER WORKSHOP / The Gilded Age of the late 1800s is not typically recalled as an age of reform, though the Pendleton Civil Service Act was signed into law in 1883. This action to stem patronage in federal jobs was a response to the dramatic expansion in the size and scope of government. Reformers hoped its passage would initiate an era of civil service reforms at the state and local levels too, but Pennsylvania did not pass a comprehensive civil service reform law until 1941.

This teacher workshop introduces a lesson on the reform efforts using the records of the Civil-Service Reform Association of Philadelphia housed at the Historical Society of Pennsylvania. Benjamin Danson, a high school social studies teacher in the Rose Tree Media School District of Pennsylvania who created the lesson for the Fall 2011 issue of Pennsylvania Legacies, will showcase these documents and suggest how teachers can use them in the classroom to explore essential questions about the multiple causations of a historical event, the role of analysis in historical construction, and how individuals and interest groups help government shape policy. Attendees will receive a copy of the Fall 2011 issue of Pennsylvania Legacies. Teachers may receive Act 48 credit. **FREE.**

Tuesday, March 6, 2012 at 12:00 to 1:00 p.m. at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

Tel: 215-925-2222 • <http://www.chemheritage.org>**Brown Bag Lecture: A talk by Joe Martin.**

check website for more information

Free and Open to the Public.

Wednesday, March 7, 2012 at 12:00n - 1:00PM at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

http://www.collphyphil.org/prog_calendar.htm**Food & Thought: "This Time It's Different? The Economics and Politics of the Great Recession"****Speaker: Mark Kuperberg, PhD, Professor of Economics, Swarthmore College**

Mark Twain said that, "History does not repeat itself, but it does rhyme." To what degree are the political and economic events that we are living through similar to the past, and to what degree are they different? In short, are things really getting worse, or does it just feel that way? In this talk, Dr. Kuperberg will explore these questions, focusing on the economic, political and legal issues that shape our collective civic experience.

Fee for lunch. To register: <http://kuperberg.eventbrite.com/>

Friday, March 9, 2012 -- Delaware Valley MENSA General Membership is generally on the 2nd Friday of the month. Check the MENSA calendar at:

http://dvm.us.mensa.org/calendar.shtml#gm_meeting

Friday, March 9, 2012 at 7:00 PM in the Greater Plymouth Community Center, 2910 Jolly Rd, Plymouth Meeting, PA.

Delaware Valley Amateur Astronomers**Near-Field Cosmology****Beth Willmann, Ph.D., Associate Professor of Astronomy at Haverford College.**

Free and Open to the General Public

<http://dvaa.org>

Sunday, March 11, 2012 at 2:00PM at Central Library, 1901 Vine Street, 19103, 215-686-5322

Cost: FREE No tickets required. For Info: 215-567-4341.

<http://libwww.freelibrary.org/calendar/>**Alain de Botton | Religion for Atheists: A Non-Believer's Guide to the Uses of Religion**

Alain de Botton's aphoristic first novel, *On Love*, was a winking dissertation on romantic love, published when he was just 23. It was followed by several books that explored a philosophy of everyday life, including *The Architecture of Happiness* and *How Proust Can Change Your Life*, which have achieved bestselling status in 30 countries. He also founded and helps to run *The School of Life* in London, dedicated to a new vision of education on how to live well. In *Religion for Atheists*, de Botton offers a practical and provocative argument for religion as a secular resource, boldly encouraging non-believers to borrow from the great wisdoms and beautiful rituals of world religions for everything from building a sense of community to escaping 24-hour media consumption.

Monday, March 12, 2012 at 6:00 PM - Science on Tap takes place at 6pm on the second Monday of every month at

National Mechanics, 22 South Third St., Philadelphia 19106

Science on Tap is a monthly gathering that features a brief, informal presentation by a scientist or other expert followed by lively conversation.

<http://scienceontaphilly.com/>**topic tba - Bonnie Bassler, Squibb Professor in Molecular Biology, Princeton University**

This month's Science on Tap is presented by the Wagner Free Institute of Science

Ages 21+ or accompanied by a chaperone 25 years or older

Tuesday, March 13, 2012 at 6:30PM at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

http://www.collphyphil.org/prog_calendar.htm**The Ethics of Using Prisoners as Sources of Cadaver Organs****Speaker: Arthur L. Caplan, PhD, FCPP**

The movement to try and close the ever-widening gap between demand and supply of organs by creative strategies has recently arrived at the prison gate in the USA and other nations. While there is some enthusiasm for using prisoners as sources of organs, there are both practical barriers and moral concerns which make it likely that the use of prisoners will not and ought not contribute in any way to relieving the problem of organ shortage through cadaveric donation. Indeed it is time for the medical community to speak up in protest of the continued practice of retrieving organ parts in China and some other nations.

Sponsored by the College's Section on Medicine, Ethics, and the Law.

Free. To register: <http://cadaver.eventbrite.com/>

Tuesday, March 13, 2012 at 7:30PM at Central Library, 1901 Vine Street, 19103, 215-686-5322

Cost: FREE No tickets required. For Info: 215-567-4341.

<http://libwww.freelibrary.org/calendar>**George Dyson | Turing's Cathedral: The Origins of the Digital Universe**

In the 1940s and 1950s, a group of brilliant engineers led by John von Neumann gathered in Princeton, New Jersey with the joint goal of realizing Alan Turing's theoretical universal machine—a thought experiment that scientists use to understand the limits of mechanical computation. As a result of their fervent work, the crucial advancements that dominated 20th century technology emerged. In *Turing's Cathedral*, technology historian George Dyson recreates the scenes of focused experimentation, mathematical insight, and creative genius that broke the distinction between numbers that mean things and numbers that do things—giving us computers, digital television, modern genetics, and models of stellar evolution. Also a philosopher of science, Dyson's previous books include *Baidarka*, *Darwin Among the Machines*, and *Project Orion*.

Tuesday, March 13, 2012 at 12:00 to 1:00 p.m. at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

Tel: 215-925-2222 •

<http://www.chemheritage.org>

Brown Bag Lecture

A talk by Rebecca Laroche

Continuing the work of an exhibition at the Folger Shakespeare Library from last year, this presentation places Robert Boyle's experiment "Of turning the Blew of Violets into a Red by Acid Salts, and to a Green by Alcalizate and the use of it for Investigating the Nature of Salts" in the context of the extensive archive of women's medical receipts. In the experiment, Boyle used the common medicine "Syrup of Violets" and its chemical sensitivity of turning color when introduced to acids and bases in developing an early pH indicator. When viewed next to the hundreds of relevant medical receipts, we discover that Boyle's experiment builds upon knowledge collectively held by women and men, including Althea Talbot and Hugh Plat, in the making of the medicine.

Rebecca Laroche is professor of English at the University of Colorado at Colorado Springs. She has published articles on Shakespeare, early modern women's writing, medical history, and ecofeminism. In 2009, her monograph *Medical Authority and Englishwomen's Herbal Texts, 1550–1650*, appeared in Ashgate's series *Literary and Scientific Cultures of the Early Modern World*. Last year, she was the guest-curator of the exhibition "Beyond Home Remedy: Women, Medicine, and Science" at the Folger Shakespeare Library. The volume *Ecofeminist Approaches to Early Modernity*, which she co-edited with Jennifer Munroe, came out with Palgrave Macmillan in November 2011. She is currently working on a monograph on the importance of collective plant knowledge in Shakespeare's oeuvre.

Free and Open to the Public.

Wednesday, March 14, 2012 at 7:30 PM. Philadelphia Nerd Nite, an evening of good food, beer, and science lectures, is generally on the second Wednesday of the month. Check the website for details at

<http://philadelphia.nerdnite.com/updates/>

Thursday, March 15, 2012 4:00 - 7:00 PM - Lecture at 5:30 PM at the Wagner Free Institute of Science, 1700 West Montgomery Avenue, Philadelphia, PA 19121

215-763-6529 www.wagnerfreeinstitute.org

Weeknights at the Wagner

Instructing our Cells to Rebuild our Bodies

A Lecture by **DR. JOHN GEARHART**, University of Pennsylvania

Thursday, March 15, 2012 at 7:30PM at Central Library, 1901 Vine Street, 19103 215-686-5322

Elaine Pagels | Revelations: Visions, Prophecy, and Politics in the Book of Revelation

Elaine Pagels exploded the myth of the early Christian Church as a unified movement in her 1979 book *The Gnostic Gospels*, which won both the National Book Critics Circle Award and the National Book Award, and was chosen by the Modern Library as one of the 100 best books of the 20th century. Known for her work in translating the Nag Hammadi Library, she joined the Princeton faculty in 1982, shortly after receiving a MacArthur Fellowship. Her other books include *The Origin of Satan*; *New York Times* bestseller, *Beyond Belief*; and *Reading Judas*. In *Revelations*, Pagels examines the historical origin of the New Testament Book of Revelation and the roots of dissent and violence in the world's religions.

Cost: \$15 General Admission, \$7 Students

<http://libwww.freelibrary.org/calendar>

Tickets on sale January 12, 2012 at 10:00 a.m.

Saturday, March 17, 2012 at 1:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

St. Patrick's Day Tour, Tastes and Toasts

You don't have to be Irish to be part of this festive St. Patrick's Day tour and reception. Though dead men tell no tales, there are two places that we can learn much about them: the wake-house and Laurel Hill Cemetery. Join us



at the latter, as we celebrate the "spirit" of St. Patrick's Day, while honoring the heritage and accomplishments of our proudest Irish souls, now gone to their final reward. 'Tis a festive occasion to be enjoyed by the living, for earth has no sorrows that heaven cannot heal! No St. Patrick's Day would be complete without beer and Irish food; sample both at the after-tour reception in Laurel Hill's historic Gatehouse. The event will be led by Jerry McCormick of Six Counties' descent, and his rebel counterpart of native Irish birth, Bill Doran.

\$20/person; \$18/students and seniors; \$17/members. Advance registration is requested. Tickets can be purchased online, or by calling 215.228.8200.

Wednesday, March 21, 2012 at 6:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

Classy Broads and Daring Dames: The Ladies of North Laurel Hill

Laurel Hill Cemetery marks Women's History Month with a program honoring some of their most accomplished broads and dames. What do a Revolutionary War lady patriot, the first burial at Laurel Hill, a great-granddaughter of Benjamin Franklin, and a famous publisher and anti-suffragette have in common? The easy answer is that they are all buried in North Laurel Hill, the Cemetery's oldest section. Join us as we unearth their stories, along with those of other women whose contributions to science and other disciplines have made life as we know it possible. This inspiring tour appropriately takes place on the first full day of spring, and will conclude with a reception and toast to classy broads and daring dames of past and present. The walking tour will be led by independent researcher and Friends of Laurel Hill board president, Carol Yaster.

\$20/person; in honor of Ladies' Night at the Cemetery, women receive 1/2 off admission!

Advance registration is requested. Tickets can be purchased online, or by calling 215.228.8200.

Wednesday, March 21, 2012 at 12:00n - 1:00 PM at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

http://www.collphyphil.org/prog_calendar.htm

Food & Thought: "Practical Wisdom: The Right Way to Do the Right Thing"

Speaker: Barry Schwartz, PhD, Professor of Psychology, Swarthmore College

When our social institutions-hospitals, schools, courtrooms, or banks-are not giving us what we need, we reach for two tools to make them work better-more and stricter rules, and smarter incentives. In this talk Dr. Schwartz will argue that neither rules, no matter how strict, nor incentives, no matter how smart, can get us what we need. They are no substitute for virtue, and for the particular virtue that Aristotle called "practical wisdom." Indeed rules and incentives typically make the problem worse. Rules prevent people from developing the skill they need to do the right thing, and incentives undermine people's will to do the right thing. The argument will draw on examples from a variety of different social institutions, including medicine.

Fee for lunch. To register: <http://bschwartz.eventbrite.com/>

Friday, March 23, 2012 at 10:00am at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200 <http://www.thelaurelhillemetery.org>

Laurel Hill: The Hot Spots and Storied Plots

Join us for this informative overview of Laurel Hill's long and colorful history, which will include many of the marble masterpieces, stunning views and legendary stories that afford the cemetery its WOW factor. This is the ultimate tour for first-time visitors to Laurel Hill, and anyone else who likes beautiful art, stimulating history, and just enjoying life...even amongst the dead. This walking tour will be led by artist and teacher, Terri Greenberg. NEW Hot Spots and Storied Plots will be presented monthly as part of Laurel Hill Cemetery's Fourth Friday tour series, which take place on the fourth Friday of every month at 10:00am.

\$8/general admission; \$5/members

Tickets can be purchased at the door, or in advance online, or by calling 215.228.8200.

I support the aims of PhACT and would like to join/rejoin for the next year. The annual membership is \$15 and \$10 for students which includes e-mail delivery of Phactum.

If you wish **US Mail delivery annual membership is \$25.** Checks should be payable to **PhACT.**

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The Philadelphia Association for Critical Thinking is grateful for the hospitality extended by Community College of Philadelphia and especially Dr. David Cattell, Chair of the Physics Department, for hosting PhACT and giving us access to such excellent facilities. Part of CCP's mission is to serve Philadelphia as a premiere learning institution and PhACT is pleased to support this goal by having talks on wide ranging, engaging, and educational topics.

PhACT's High School Science Fair Student Prize Funds

Prizes awarded in 2010	= \$ 300.00
Prizes awarded in 2011	= \$ 500.00
Total 2012 Prize Fund	= \$ 313.00

Please donate. Small contributions are preferred and donations in excess of the 2012 goal will be applied to the 2013 Prize Fund or some other youth science education project not yet determined.

ALL money collected for this project will be used for student prizes. PhACT members and others are invited to participate as judges. Contact Eric Krieg for more information: erickrieg@verizon.net

Phactum is, in theory, distributed 6 times a year and is the main propaganda organ for the Philadelphia Association for Critical Thinking.

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